HPC DEVELOPMENT LLC

EM-T-MOBILE-057-090825

August 24, 2009

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051
Attn: Mr. S. Derek Phelps, Executive Director

Re: T-Mobile Northeast LLC – exempt modification
160 Sound Beach Avenue, Greenwich, Connecticut

Dear Mr. Phelps:

This letter and attachments are submitted on behalf of T-Mobile Northeast LLC ("T-Mobile"). T-Mobile is enhancing the capabilities of its wireless system in Connecticut by implementing UMTS technology. In order to do so, T-Mobile will modify antenna and equipment configurations at a number of its existing sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the First Selectman of Greenwich.

T-Mobile plans to modify the existing wireless communications facility on CL&P structure No. 1256 located at 160 Sound Beach Avenue, Greenwich (coordinates 41°01'59" N, -73°34'05" W). The pole and underlying ground are owned by CL&P. Attached are a compound plan and elevation depicting the planned changes, and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration. Also included is a power density calculation reflecting the modification to T-Mobile's operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the structure will not be increased. Both T-Mobile's existing and proposed antennas will be located at an approximate center line of 110' AGL. The tower, which is 95' in height, currently supports a 31'5" mast attachment on which T-Mobile's twelve antennas and six TMAs are mounted. T-Mobile will replaced six of the existing antennas with three new antennas, for a total of nine antennas. No changes will be made to the existing TMAs or coaxial cables. The proposed modifications will not extend the height of the structure.

2. The proposed changes will not extend the site boundaries. T-Mobile will replace one of its three existing equipment cabinets with a different cabinet in the same location. Thus, there will be no effect on the site compound.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed changes will be negligible.

4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site. As indicated on the attached power density calculation, T-Mobile's operations at the site will result in a power density of 8.7101%.

Please feel free to call me at (860) 798-7454 with questions concerning this matter. Thank you for your consideration.

Respectfully yours,

Jennifer Young Gaudet

Jennifer Young Gaudet

cc: Honorable Peter Tesei, First Selectman, Town of Greenwich
Connecticut Light & Power Company (underlying property owner)

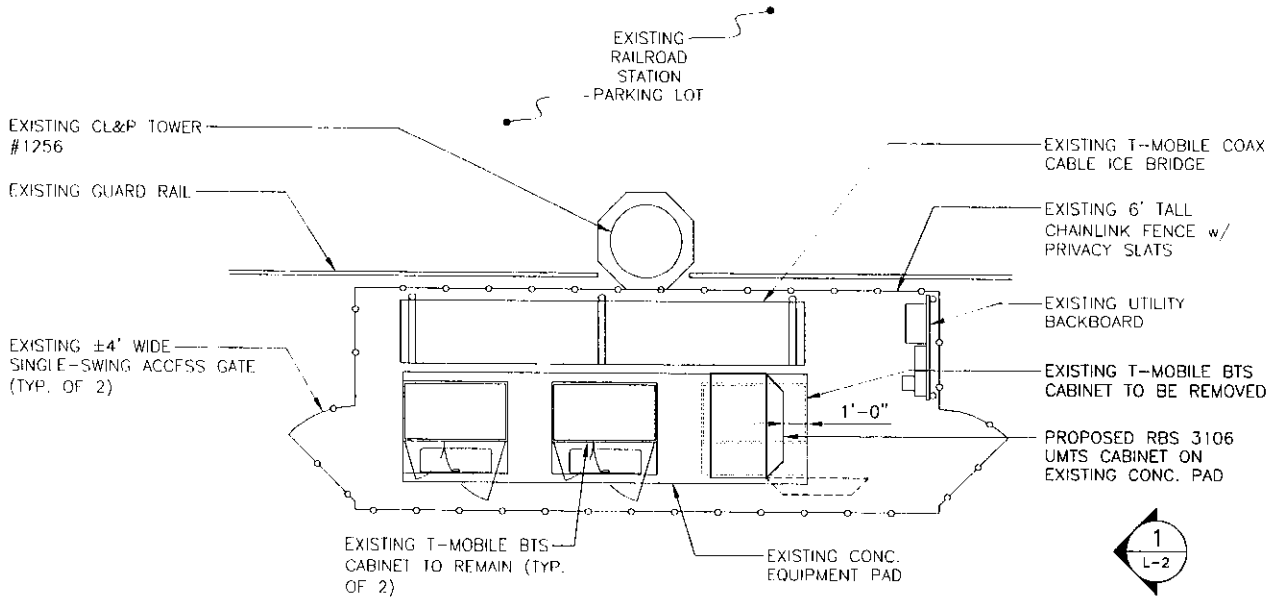
Attachments

LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

UMTS UPGRADE PROJECT SCOPE

EQUIPMENT TYPE	PROPOSED CHANGES
RADIO CABINET	REPLACE (1) OF THE (3) EXISTING CONC. PAD MOUNTED BTS CABINETS WITH (1) ERICSSON RBS 3106 UMTS CABINET AT THE SAME LOCATION
ANTENNAS/ TMAs	SIX (6) OF THE EXISTING TWELVE (12) PANEL ANTENNAS ARE PROPOSED TO BE REPLACED WITH THREE (3) RFS APX16 SERIES ANTENNAS (FOR A PROPOSED TOTAL OF 9 PANEL ANTENNAS). THE PROPOSED REPLACEMENT ANTENNAS WILL UTILIZE THE EXISTING ANTENNA ℄ HEIGHTS, MOUNTS AND EXISTING/PROPOSED COAX CABLES. NO CHANGES TO THE EXISTING TMA CONFIGURATION ARE PROPOSED.
COAX CABLES	NO CHANGES TO THE EXISTING COAX CABLE CONFIGURATION ARE PROPOSED.
COMPOUND LIMITS	NO CHANGE TO THE LIMITS OF THE EXISTING EQUIPMENT COMPOUND IS PROPOSED.



1 / L-1 **COMPOUND PLAN**
SCALE: 1" = 5'

APPROX. NORTH

GRAPHIC SCALE
5 0 2.5 5 10 20
(IN FEET)
1 inch = 5 ft.

DESIGNED BY:	CFC
DRAWN BY:	DEB
CHK'D BY:	CFC

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
A	12/4/08	DEB	CFC	LEASE EXHIBIT - REVIEW

PROFESSIONAL ENGINEER SEAL

T Mobile

NATSDMN

T-MOBILE
CT11001B
GREENWICH/RIVERSIDE

DATE:	12/3/08
SCALE:	AS SHOWN
JOB NO.	08174.C05

LEASE EXHIBIT

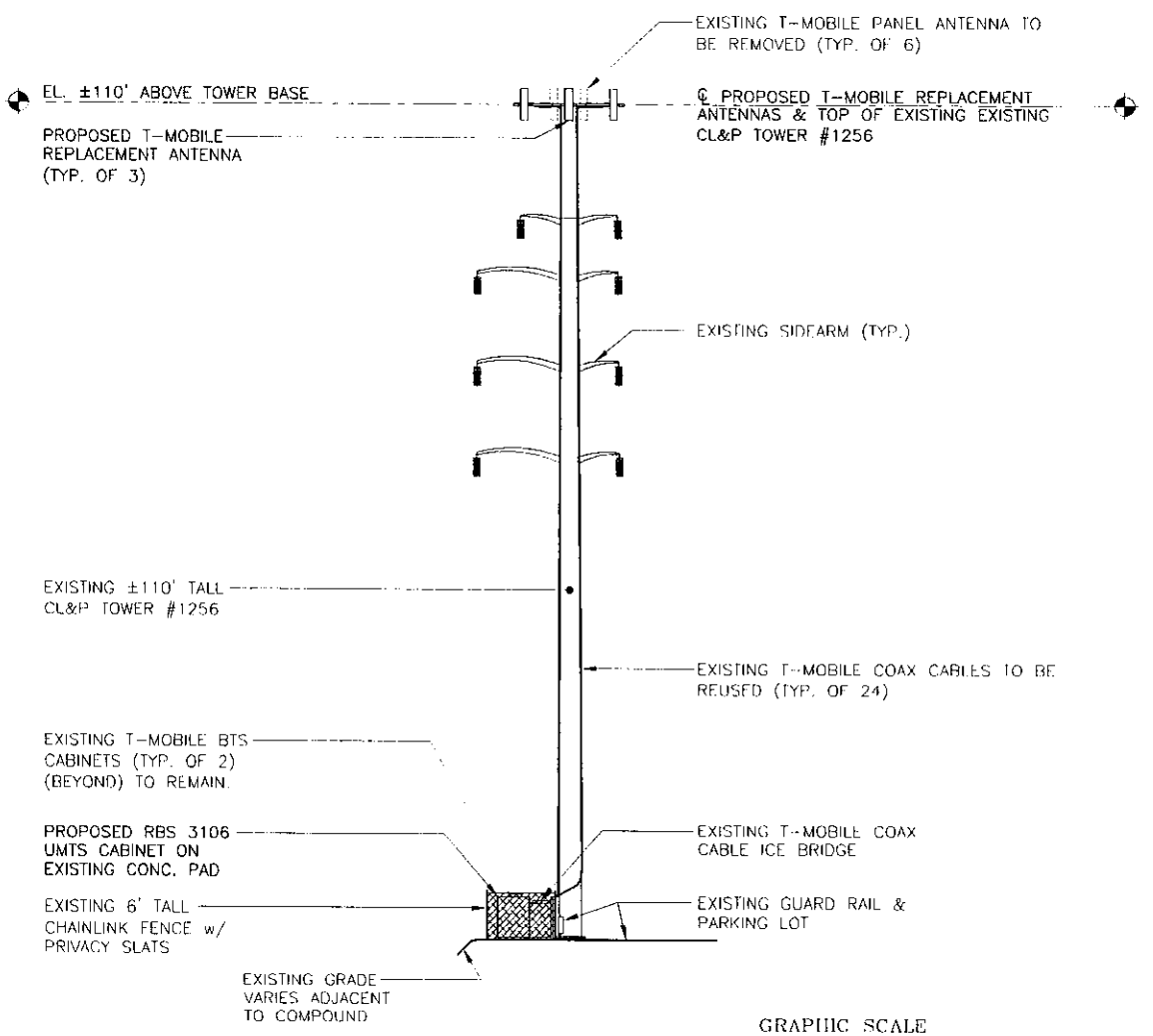
SHEET NO.
L-1

LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

UMTS UPGRADE PROJECT SCOPE

EQUIPMENT TYPE	PROPOSED CHANGES
RADIO CABINET	REPLACE (1) OF THE (3) EXISTING CONC. PAD MOUNTED BTS CABINETS WITH (1) ERICSSON RBS 3106 UMTS CABINET AT THE SAME LOCATION
ANTENNAS/ TMAs	SIX (6) OF THE EXISTING TWELVE (12) PANEL ANTENNAS ARE PROPOSED TO BE REPLACED WITH THREE (3) RFS APX16 SERIES ANTENNAS (FOR A PROPOSED TOTAL OF 9 PANEL ANTENNAS). THE PROPOSED REPLACEMENT ANTENNAS WILL UTILIZE THE EXISTING ANTENNA ℄ HEIGHTS, MOUNTS AND EXISTING/PROPOSED COAX CABLES. NO CHANGES TO THE EXISTING TMA CONFIGURATION ARE PROPOSED.
COAX CABLES	NO CHANGES TO THE EXISTING COAX CABLE CONFIGURATION ARE PROPOSED.
COMPOUND LIMITS	NO CHANGE TO THE LIMITS OF THE EXISTING EQUIPMENT COMPOUND IS PROPOSED.



1 / L-2 **EAST ELEVATION**

SCALE: 1/16" = 1'-0"

GRAPHIC SCALE

16 0 8 16 32 64

(IN FEET)

1 inch = 16 ft.

REV	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
A	12/4/08	DEB	CFC	LEASE EXHIBIT – REVIEW

DESIGNED BY: CFC
DRAWN BY: DEB
CHK'D BY: CFC

PROFESSIONAL ENGINEER SEAL

T Mobile

NATIONAL

T-MOBILE

CT11001B

GREENWICH/RIVERSIDE

DATE: 12/3/08
SCALE: AS SHOWN
JOB NO. 08174.C06

LEASE EXHIBIT

SHEET NO.
L-2

NATCOMM INC.
CONSULTING ENGINEERS

Structural Analysis of PCS Structure and CL&P Pole

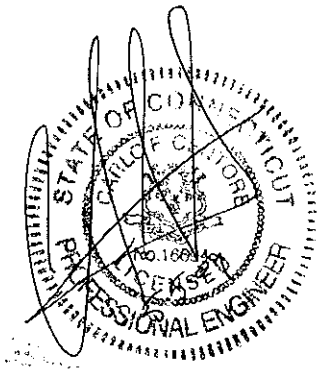
T-Mobile: CT11-001B; Greenwich Riverside

CL&P Structure No. 1256
95' Electric Transmission Pole
and Existing 31'-5" PCS Structure

160 Sound Beach Road,
Greenwich, CT

Natcomm Project No. 08174.CO.06

Date: April 28, 2009



Prepared for:
HPC Development, LLC
53 Lake Ave Ext
Danbury, CT 06811

p: 203.488.0580
f: 203.488.8587
w: nat-eng.com
63-2 N. Branford Rd.
Branford, CT 06405

Table of Contents

Natcomm, Inc.
Structural Analysis – T-Mobile: CT-11-001B Greenwich Riverside
CL&P Structure # 1256
Greenwich, CT
April 28, 2009

Introduction

The purpose of this report is to analyze the existing 31'-5"' PCS lattice structure and 95' CL&P pole located at 160 Sound Beach Road Greenwich, CT for the proposed antenna and equipment upgrade by T-Mobile.

The proposed loads consist of the following:

- T-MOBILE (Existing to be removed):

  Antennas: Six (6) panel antennas mounted on a PCS lattice structure with a RAD center elevation of 110-ft above the tower base plate.

- T-MOBILE (Existing to remain):

  Coax Cables: Twenty-four (24) 1-5/8" ∅ coax cables.

- **T-MOBILE (Proposed):**

  Antennas: Three (3) RFS APX16DWV-DWVS-E-A20 panel antennas mounted on an existing low profile platform with a RAD center elevation of 110-ft above the tower base plate.

Primary assumptions used in the analysis

- Allowable steel stresses are defined by AISC-ASD 9th edition for design of the PCS Mast and antenna supporting elements.
- ASCE Manual No. 72, "Design of Steel Transmission Pole Structures Second Edition", defines allowable steel stresses for evaluation of the CL&P utility pole.
- All utility pole members are adequately protected to prevent corrosion of steel members.
- All proposed antenna mounts are modeled as listed above.
- All coaxial cable will be installed within the pipe mast unless specified otherwise.
- Pipe mast will be properly installed and maintained.
- No residual stresses exist due to incorrect pole erection.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds conform to the requirements of AWS D1.1.
- All proposed pipe mast members will be as specified in the construction documents to be prepared by Natcomm, Inc.
- Pipe mast and utility pole will be in plumb condition.
- Utility pole was properly installed and maintained and all members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
- Any deviation from the analyzed loading will require a new analysis for verification of structural adequacy.

Analysis

Structural design of the proposed *PCS Mast Structure* was independently completed using the current version of RISA-3D computer program licensed to Natcomm, Inc.

The existing 31'-5" long lattice structure attached to the CL&P pole structure at two locations was analyzed for its ability to resist loads prescribed by the TIA/EIA standard. Section 5 of this report details these gravity and lateral wind loads. NESC prescribed loads were also applied to the mast structure in order to obtain reactions needed for analyzing the CL&P pole structure. These loads are developed in Section 7 of this report. Load cases and combinations used in RISA-3D for TIA/EIA loading and for NESC/NU loading are listed in report Sections 6 and 8, respectively

An envelope solution was first made to determine maximum and minimum forces, stresses, and deflections to confirm the selected section as adequate. Additional analyses were then made to determine the NESC forces to be applied to the CL&P pole structure.

The RISA-3D program contains a library of all AISC shapes and corresponding section properties are computed and applied directly within the program. The program's Steel Code Check option was also utilized.The forces calculated in RISA-3D using NESC guidelines were then applied to the CL&P pole using PLS-Pole. Maximum usage for the pole was calculated considering the additional forces from the mast and associated appurtenances.

Design Basis

Our analysis was performed in accordance with EIA-222-F-1996, ASCE Manual No. 72 – "Design of Steel Transmission Pole Structures Second Edition", NESC C2-2007 and Northeast Utilities Design Criteria.

The CL&P pole structure, considering existing and future conductor and shield wire loading, with the proposed antenna mast was analyzed under two conditions:

- UTILITY POLE ANALYSIS

  The purpose of this analysis is to determine the adequacy of the existing utility pole to support the proposed antenna loads. The loading and design requirements were analyzed in accordance with the NU Design Criteria Table, NESC C2-2007 ~ Construction Grade B, and ASCE Manual No. 72.

  Load cases considered:

  Load Case 1: NESC Heavy

Wind Pressure.....	4.0 psf
Vertical Overload Capacity Factor.....	1.50
Wind Overload Capacity Factor.....	2.50
Wire Tension Overload Capacity Factor.....	1.65

  Load Case 2: NESC Extreme

Wind Speed.....	110 mph (1)
Radial Ice Thickness.....	0"

  Note 1: NESC C2-2007, Section25, Rule 250C: Extreme Wind Loading. 1.25 x Gust Response Factor (wind speed: 3-secong gust)

- PCS LATTICE STRUCTURE ANALYSIS

  The PCS lattice structure, appurtenances and connections to the utility pole were analyzed and designed in accordance with the NU Design Criteria Table, TIA/EIA-222-F, and AISC-ASD standards.

  Load cases considered:

  Load Case 1:
  Wind Speed..... 85 mph [2]
  Radial Ice Thickness..... 0"

  Load Case 2:
  Wind Pressure..... 75% of 85 mph wind pressure
  Radial Ice Thickness..... 0.5"

  Note 2: Per NU Mast Design Criteria Exception 1.

Results

- PCS LATTICE STRUCTURE

  The existing PCS lattice structure made up of L3.5x3.5x5/16 and L1.5x1.5x3/16 ASTM A36 angles was determined to be structurally adequate to support the proposed antenna and equipment upgrade by T-Mobile.

- UTILITY POLE

  This analysis finds that the subject utility pole is adequate to support the proposed antenna mast and related appurtenances. The pole stresses meet the requirements set forth by the ASCE Manual No. 72, "Design of Steel Transmission Pole Structures Second Edition", for the applied NESC Heavy and Hi-Wind load cases. The detailed analysis results are provided in Section 9 of this report. The analysis results are summarized as follows:

  A maximum usage of **99.48%** occurs in the utility pole base plate under the NESC Extreme loading condition.

  POLE SECTION:

  The utility pole was found to be within allowable limits.

Tower Section	Component	Stress Ratio (percentage of capacity)	Result
Tube Number 1	15.0' -50.0'	93.44%	**PASS**

  BASE PLATE:

  The base plate was found to be within allowable limits from the PLS output based on 16 bend lines.

Tower Component	Design Limit	Stress Ratio (percentage of capacity)	Result
Base Plate	Bending	99.48%	**PASS**

- FOUNDATION AND ANCHORS

The existing foundation consists of a 10-ft ∅ x 18-ft-6-in long reinforced concrete cassion. The base of the tower is connected to the foundation by means of (16) 2.25"∅, ASTM A615 Grade 75 anchor bolts embedded approximately 8.0-ft into the concrete foundation structure.

Review of the foundation and anchor design consisted of verification of applied loads obtained from the tower design calculations and code checks of allowable stresses:

BASE REACTIONS:

From PLS-Pole analysis of CL&P pole based on NESC/NU prescribed loads.

Load Case	Transverse	Axial	Overturning Moment
NESC Heavy Wind	22.45 kips	31.95 kips	1820.45 ft-kips
NESC Extreme Wind	24.18 kips	11.92 kips	1920.78 ft-kips

ANCHOR BOLTS:

The anchor bolts were found to be within allowable limits.

Tower Component	Design Limit	Stress Ratio (percentage of capacity)	Result
Anchor Bolts	Tension	99.9%	**PASS**

FOUNDATION:

The foundation was found to be within allowable limits based on original tower design reactions.

Foundation	Design Limit	NU Required (FS) [2]	Proposed Loading (FS) [2]	Result
Reinf. Conc. Cassion	OTM [1]	1.5	3.1	**PASS**

Note 1: OTM denote overturning moment.
Note 2: FS denotes Factor of Safety.

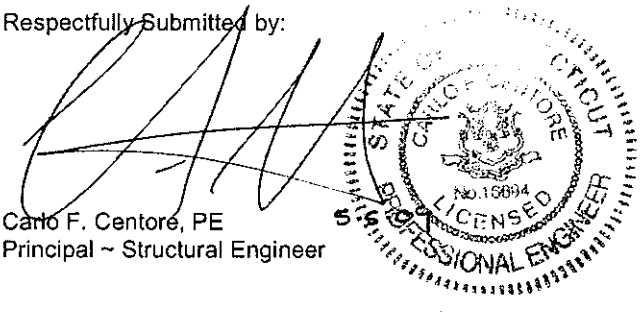
Conclusions

This analysis shows that the subject utility pole **is adequate** to support the proposed antenna mast and related appurtenances.

The analysis is based, in part on the information provided to this office by Northeast Utilities and T-Mobile. If the existing conditions are different than the information in this report, Natcomm, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:



Carlo F. Centore, PE
Principal ~ Structural Engineer

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING STRUCTURES

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.

- Information from the field and/or drawings in the possession of Natcomm, Inc. or generated by field inspections or measurements of the structure.

- It is the responsibility of the client to ensure that the information provided to Natcomm, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the "as new" condition.

- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222.

- All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Natcomm, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM ~ RISA-3D

RISA-3D Structural Analysis Program is an integrated structural analysis and design software package for buildings, bridges, tower structures, etc.

Modeling Features:

- Comprehensive CAD-like graphic drawing/editing capabilities that let you draw, modify and load elements as well as snap, move, rotate, copy, mirror, scale, split, merge, mesh, delete, apply, etc.
- Versatile drawing grids (orthogonal, radial, skewed)
- Universal snaps and object snaps allow drawing without grids
- Versatile general truss generator
- Powerful graphic select/unselect tools including box, line, polygon, invert, criteria, spreadsheet selection, with locking
- Saved selections to quickly recall desired selections
- Modification tools that modify single items or entire selections
- Real spreadsheets with cut, paste, fill, math, sort, find, etc.
- Dynamic synchronization between spreadsheets and views so you can edit or view any data in the plotted views or in the spreadsheets
- Simultaneous view of multiple spreadsheets
- Constant in-stream error checking and data validation
- Unlimited undo/redo capability
- Generation templates for grids, disks, cylinders, cones, arcs, trusses, tanks, hydrostatic loads, etc.
- Support for all units systems & conversions at any time
- Automatic interaction with RISASection libraries
- Import DXF, RISA-2D, STAAD and ProSteel 3D files
- Export DXF, SDNF and ProSteel 3D files

Analysis Features:

- Static analysis and P-Delta effects
- Multiple simultaneous dynamic and response spectra analysis using Gupta, CQC or SRSS mode combinations
- Automatic inclusion of mass offset (5% or user defined) for dynamic analysis
- Physical member modeling that does not require members to be broken up at intermediate joints
- State of the art 3 or 4 node plate/shell elements
- High-end automatic mesh generation — draw a polygon with any number of sides to create a mesh of well-formed quadrilateral (NOT triangular) elements.
- Accurate analysis of tapered wide flanges - web, top and bottom flanges may all taper independently
- Automatic rigid diaphragm modeling
- Area loads with one-way or two-way distributions
- Multiple simultaneous moving loads with standard AASHTO loads and custom moving loads for bridges, cranes, etc.
- Torsional warping calculations for stiffness, stress and design
- Automatic Top of Member offset modeling
- Member end releases & rigid end offsets
- Joint master-slave assignments
- Joints detachable from diaphragms
- Enforced joint displacements
- 1-Way members, for tension only bracing, slipping, etc.

- 1-Way springs, for modeling soils and other effects
- Euler members that take compression up to their buckling load, then turn off.
- Stress calculations on any arbitrary shape
- Inactive members, plates, and diaphragms allows you to quickly remove parts of structures from consideration
- Story drift calculations provide relative drift and ratio to height
- Automatic self-weight calculations for members and plates
- Automatic subgrade soil spring generator

Graphics Features:

- Unlimited simultaneous model view windows
- Extraordinary "true to scale" rendering, even when drawing
- High-speed redraw algorithm for instant refreshing
- Dynamic scrolling stops right where you want
- Plot & print virtually everything with color coding & labeling
- Rotate, zoom, pan, scroll and snap views
- Saved views to quickly restore frequent or desired views
- Full render or wire-frame animations of deflected model and dynamic mode shapes with frame and speed control
- Animation of moving loads with speed control
- High quality customizable graphics printing

Design Features:

- Designs concrete, hot rolled steel, cold formed steel and wood
- ACI 1999/2002, BS 8110-97, CSA A23.3-94, IS456:2000,EC 2-1992 with consistent bar sizes through adjacent spans
- Exact integration of concrete stress distributions using parabolic or rectangular stress blocks
- Concrete beam detailing (Rectangular, T and L)
- Concrete column interaction diagrams
- Steel Design Codes: AISC ASD 9th, LRFD 2nd & 3rd, HSS Specification, CAN/CSA-S16.1-1994 & 2004, BS 5950-1-2000, IS 800-1984, Euro 3-1993 including local shape databases
- AISI 1999 cold formed steel design
- NDS 1991/1997/2001 wood design, including Structural Composite Lumber, multi-ply, full sawn
- Automatic spectra generation for UBC 1997, IBC 2000/2003
- Generation of load combinations: ASCE, UBC, IBC, BOCA, SBC, ACI
- Unbraced lengths for physical members that recognize connecting elements and full lengths of members
- Automatic approximation of K factors
- Tapered wide flange design with either ASD or LRFD codes
- Optimization of member sizes for all materials and all design codes, controlled by standard or user-defined lists of available sizes and criteria such as maximum depths
- Automatic calculation of custom shape properties
- Steel Shapes: AISC, HSS, CAN, ARBED, British, Euro, Indian, Chilean
- Light Gage Shapes: AISI, SSMA, Dale / Incor, Dietrich, Marino\WARE
- Wood Shapes: Complete NDS species/grade database
- Full seamless integration with RISAFoot (Ver 2 or better) for advanced footing design and detailing
- Plate force summation tool

Results Features:

- Graphic presentation of color-coded results and plotted designs
- Color contours of plate stresses and forces with quadratic smoothing, the contours may also be animated
- Spreadsheet results with sorting and filtering of: reactions, member & joint deflections, beam & plate forces/stresses, optimized sizes, code designs, concrete reinforcing, material takeoffs, frequencies and mode shapes
- Standard and user-defined reports
- Graphic member detail reports with force/stress/deflection diagrams and detailed design calculations and expanded diagrams that display magnitudes at any dialed location
- Saved solutions quickly restore analysis and design results.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM ~ PLS-POLE

PLS-POLE provides all of the capabilities a structural engineer requires to design transmission, substation or communications structures. It does so using a simple easy to use graphical interface that rests upon our time tested finite element engine. Regardless of whether you want to model a simple wood pole or a guyed steel X-Frame; PLS-POLE can handle the job simply, reliably and efficiently.

Modeling Features:

- Structures are made of standard reusable components that are available in libraries. You can easily create your own libraries or get them from a manufacturer
- Structure models are built interactively using interactive menus and graphical commands
- Automatic generation of underlying finite element model of structure
- Steel poles can have circular, 4, 6, 8, 12, 16, or 18-sided, regular, elliptical or user input cross sections (flat-to-flat or tip-to-tip orientations)
- Steel and concrete poles can be selected from standard sizes available from manufacturers
- Automatic pole class selection
- Cross brace position optimizer
- Capability to specify pole ground line rotations
- Capability to model foundation displacements
- Can optionally model foundation stiffness
- Guys are easily handled (modeled as exact cable elements in nonlinear analysis)
- Powerful graphics module (members color-coded by stress usage)
- Graphical selection of joints and components allows graphical editing and checking
- Poles can be shown as lines, wire frames or can be rendered as 3-d polygon surfaces

Analysis Features:

- Automatic distribution of loads in 2-part suspension insulators (v-strings, horizontal vees, etc.)
- Design checks for ASCE, ANSI/TIA/EIA 222 (Revisions F and G) or other requirements
- Automatic calculation of dead and wind loads
- Automated loading on structure (wind, ice and drag coefficients) according to:
    - ASCE 74-1991
    - NESC 2002
    - NESC 2007
    - IEC 60826:2003
    - EN50341-1:2001 (CENELEC)
    - EN50341-3-9:2001 (UK NNA)
    - EN50341-3-17:2001 (Portugal NNA)
    - ESAA C(b)1-2003 (Australia)
    - TPNZ (New Zealand)
    - REE (Spain)
    - EIA/TIA 222-F
    - ANSI/TIA 222-G
    - CSA S37-01
- Automated microwave antenna loading as per EIA/TIA 222-F and ANSI/TIA 222-G
- Detects buckling by nonlinear analysis

Results Features:

- Detects buckling by nonlinear analysis
- Easy to interpret text, spreadsheet and graphics design summaries
- Automatic determination of allowable wind and weight spans
- Automatic determination of interaction diagrams between allowable wind and weight spans
- Automatic tracking of part numbers and costs

Natcomm, Inc.
Structural Analysis – T-Mobile: CT-11-001B Greenwich Riverside
CL&P Structure # 1256
Greenwich, CT
April 28, 2009

Criteria for Design of PCS Facilities On or Extending Above Metal Electric Transmission Towers & Analysis of Transmission Towers Supporting PCS Masts [1]

Introduction

This criteria is the result from an evaluation of the methods and loadings specified by the separate standards, which are used in designing telecommunications towers and electric transmission towers. That evaluation is detailed elsewhere, but in summary; the methods and loadings are significantly different. This criteria specifies the manner in which the appropriate standard is used to design PCS facilities including masts and brackets (hereafter referred to as "masts"), and to evaluate the electric transmission towers to support PCS masts. The intent is to achieve an equivalent level of safety and security under the extreme design conditions expected in Connecticut and Massachusetts.

ANSI Standard TIA/EIA-222 covering the design of telecommunications structures specifies a working strength/allowable stress design approach. This approach applies the loads from extreme weather loading conditions, and designs the structure so that it does not exceed some defined percentage of failure strength (allowable stress).

ANSI Standard C2-2007 (National Electrical Safety Code) covering the design of electric transmission metal structures is based upon an ultimate strength/yield stress design approach. This approach applies a multiplier (overload capacity factor) to the loads possible from extreme weather loading conditions, and designs the structure so that it does not exceed its ultimate strength (yield stress).

Each standard defines the details of how loads are to be calculated differently. Most of the NU effort in "unifying" both codes was to establish what level of strength each approach would provide, and then increasing the appropriate elements of each to achieve a similar level of security under extreme weather loadings.

Two extreme weather conditions are considered. The first is an extreme wind condition (hurricane) based upon a 50-year recurrence (2% annual probability). The second is a winter condition combining wind and ice loadings.

The following sections describe the design criteria for any PCS mast extending above the top of an electric transmission tower, and the analysis criteria for evaluating the loads on the transmission tower from such a mast from the lower portions of such a mast, and loads on the pre-existing electric lower portions of such a mast, and loads on the pre-existing electric transmission tower and the conductors it supports.

Note 1: Prepared from documentation provide from Northeast Utilities.

P C S M a s t

The PCS facility (mast, external cable/trays, including the initial and any planned future support platforms, antennas, etc. extending the full height above the top level of the electric transmission structure) shall be designed in accordance with the provisions of TIA/EIA Standard 222 with two exceptions:

1. An 85 mph extreme wind speed shall be used for locations in all counties throughout the NU system.
2. The stress increase of TIA Section 3.1.1.1 is disallowed. The combined wind and ice condition shall consider ½" radial ice in combination with the wind load (0.75 Wi) as specified in TIA section 2.3.16.

E L E C T R I C T R A N S M I S S I O N T O W E R

The electric transmission tower shall be analyzed using yield stress theory in accordance with the attached table titled "NU Design Criteria". This specifies uniform loadings (different from the TIA loadings) on the each of the following components of the installed facility:

- PCS mast for its total height above ground level, including the initial and planned future support platforms, antennas, etc. above the top of an electric transmission structure.
- Conductors are related devices and hardware.
- Electric transmission structure. The loads from the PCS facility and from the electric conductors shall be applied to the structure at conductor and PCS mast attachment points, where those load transfer to the tower.

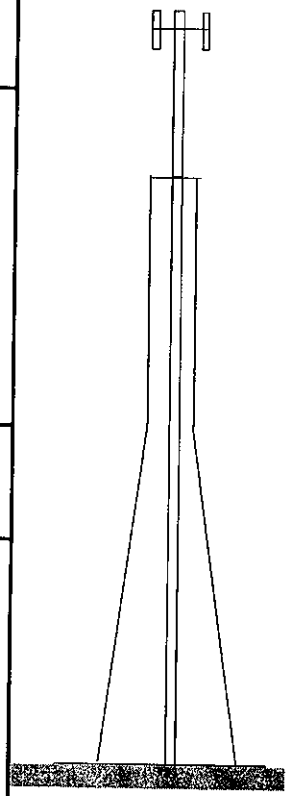
The uniform loadings and factors specified for the above components in the table are based upon the National Electrical Safety Code 2007 Edition Extreme Wind (Rule 250C) and Combined Ice and Wind (Rule 250B-Heavy) Loadings. These provide equivalent loadings compared to TIA and its loads and factors with the exceptions noted above. (Note that the NESC does not require the projected wind surfaces of structures and equipment to be increased by the ice covering.)

In the event that the electric transmission tower is not sufficient to support the additional loadings of the PCS mast, reinforcement will be necessary to upgrade the strength of the overstressed members.

J:\PCS Wireless\Vendor Design Package\Design Criteria Table(Rev04).xls

NU DESIGN CRITERIA TABLE

	Basic Wind Speed	Pressure	Height Factor	Gust Factor	Load or Stress Factor	Force Coef - Shape Factor	
	V (mph)	q (psf)	Kz	Gh			
EXTREME WIND (50-YR) PCS Mast, etc. Design (Allowable stress)	85	TIA	TIA	TIA	TIA except no Sect 3.1.1.1	TIA	
Tower/Pole Analysis (yield stress) PCS above tower/pole-top	Use NESC C2-2007, Section 25, Rule 250C: Extreme Wind Loading 1.25 x Gust Response Factor Height above groundline based on top of mast/antenna					1.60 1.30	flat surfaces round surfaces
Tower/Pole & PCS below tower/pole-top	Use NESC C2-2007, Section 25, Rule 250C: Extreme Wind Loading Height above groundline based on top of tower/pole					1.60 1.30	flat surfaces round surfaces
Conductors Only for structures installed 2007 and after>>	Use NESC C2-2007, Section 25, Rule 250C: Extreme Wind Loading, and Use NESC C2-2007, Section 25, Rule 250D; Combined Extreme Ice and Wind					1.00 1.00	
NESC HEAVY PCS Design (Allowable stress)	TIA	TIA (.75Wi)	TIA	TIA	TIA except no Sect 3.1.1.1	TIA	
Tower/Pole Analysis (yield stress) PCS above tower/pole-top		4	1.00	1.00	2.50	1.60 1.30	flat surfaces round surfaces
Tower (on each of 2 faces)/pole and PCS below tower-top		4	1.00	1.00	2.50	1.60 1.30	flat surfaces round surfaces
Conductors Wind Horizontal comp. of tension Vertical weight w/ 1/2" ice		4	1.00	1.00	2.50 1.65 1.50	1.00	



rev 12/19/07

Northeast Utilities/ Western Massachusetts Electric Co.
Transmission Structure Shape factor Criteria Supporting PCS Antennas (Issued April 12, 2007)

The shape factor Multiplier.

- Flat member Cd = 1.6:
- Round Member Cd=1.3

Where the coax cables are mounted along side of the pole structure the shape factor multiplier shall be as follows:

- Coax cables attached on outside periphery of the pole in one layer Cd=1.45 to the pole and the coax.
- Coax cables mounted on stand off, use Cd=1.6 for coax cables and Cd=1.3 for pole

Mohsen Sahirad, P.E.
Transmission Civil Engineer

TITLE VoiceStream GREENWICH, CT

STRUCT CL&P Str. #1256

05/22/2000

CONDUCTOR

	AHEAD		BACK	
	BITTERN		BITTERN	
	1272.000		1272.000	
	45/7 ACSR		45/7 ACSR	
DIAM =	1.345		1.345	
WEIGHT =	1.432		1.432	
TENSION (LBS)	AHEAD	6,000	BACK	6,000

LOADCASE	NESC HEAVY
WIND (PSF)	4
ICE (IN)	0.50
OLF ANG	1.65
OLF WIND	2.50
OLF WT	1.50

STR	ANGLE	WIND SPAN	WGT SPAN	NESC HEAVY H	L	V
BACK	4.9	227	270	1289	-9864	1045
AHEAD	4.9	227	270	1289	9864	1045
TOTALS	9.8	454	540	2578	0	2089

Wire Ld

TITLE VoiceStream Greenwich, CT 05/22/2000

STRUCT CL&P Str. #1256

CONDUCTOR

	AHEAD	BACK
	BITTERN	BITTERN
	1272.000 45/7 ACSR	1272.000 45/7 ACSR
DIAM =	1.345	1.345
WEIGHT =	1.432	1.432
TENSION (LBS)	AHEAD 7,583	BACK 7,583

LOADCASE	1" RAD ICE
WIND (PSF)	0
ICE (IN)	1.00
OLF ANG	1.15
OLF WIND	1.15
OLF WT	1.15

STR	ANGLE	WIND SPAN	WGT SPAN	1" RAD ICE H	L	V
BACK	4.9	227	270	745	-8689	1350
AHEAD	4.9	227	270	745	8689	1350
TOTALS	**9.8**	**454**	**540**	**1490**	**0**	**2700**

TITLE VoiceStream GREENWICH, CT

05/22/2000

STRUCT CL&P Str. #1256

CONDUCTOR

	AHEAD		BACK	
	BITTERN		BITTERN	
	1272.000		1272.000	
	45/7 ACSR		45/7 ACSR	
DIAM =	1.345		1.345	
WEIGHT =	1.432		1.432	
TENSION (LBS)	AHEAD	4,609	BACK	4,609

LOADCASE	HI WIND
WIND (PSF)	20
ICE (IN)	0.00
OLF ANG	1.15
OLF WIND	1.15
OLF WT	1.15

STR	ANGLE	WIND SPAN	WGT SPAN	HI WIND H	HI WIND L	HI WIND V
BACK	4.9	227	270	1038	-5281	445
AHEAD	4.9	227	270	1038	5281	445
TOTALS	**9.8**	**454**	**540**	**2076**	**0**	**889**

TITLE VoiceStream GREENWICH, CT

STRUCT CL&P Str. #1256

05/22/2000

CONDUCTOR SHIELD WIRE

	AHEAD		BACK	
	LINNET		LINNET	
	336		336	
	26/7 ACSR		26/7 ACSR	
DIAM =	0.720		0.720	
WEIGHT =	0.462		0.462	
TENSION (LBS)	AHEAD	4,000	BACK	4,000

LOADCASE	NESC HEAVY
WIND (PSF)	4
ICE (IN)	0.50
OLF ANG	1.65
OLF WIND	2.50
OLF WT	1.50

STR	ANGLE	WIND SPAN	WGT SPAN	NESC HEAVY H	L	V
BACK	4.9	227	270	889	-6576	494
AHEAD	4.9	227	270	889	6576	494
TOTALS	9.8	454	540	1778	0	989

TITLE VoiceStream GREENWICH, CT 05/22/2000

STRUCT CL&P Str. #1256

CONDUCTOR SHIELD WIRE

	AHEAD		BACK	
	LINNET		LINNET	
	336		336	
	26/7 ACSR		26/7 ACSR	
DIAM =	0.720		0.720	
WEIGHT =	0.462		0.462	
TENSION (LBS)	AHEAD	4,999	BACK	4,999

LOADCASE	1" RAD ICE
WIND (PSF)	0
ICE (IN)	1.00
OLF ANG	1.15
OLF WIND	1.15
OLF WT	1.15

STR	ANGLE	WIND SPAN	WGT SPAN	1" RAD ICE H	L	V
BACK	4.9	227	270	491	-5728	808
AHEAD	4.9	227	270	491	5728	808
TOTALS	9.8	454	540	982	0	1615

TITLE VoiceStream GREENWICH, CT 05/22/2000
STRUCT CL&P Str. #1256

CONDUCTOR SHIELD WIRE

	AHEAD		BACK	
	LINNET		LINNET	
	336		336	
	26/7 ACSR		26/7 ACSR	
DIAM =	0.720		0.720	
WEIGHT =	0.462		0.462	
TENSION (LBS)	AHEAD	2,793	BACK	2,793

LOADCASE	HI WIND
WIND (PSF)	20
ICE (IN)	0.00
OLF ANG	1.15
OLF WIND	1.15
OLF WT	1.15

STR	ANGLE	WIND SPAN	WGT SPAN	HI WIND H	HI WIND L	HI WIND V
BACK	4.9	227	270	588	-3200	143
AHEAD	4.9	227	270	588	3200	143
TOTALS	**9.8**	**454**	**540**	**1175**	**0**	**287**

℄ T-MOBILE ANTENNAS
EL. ±110'-0" AGL

(6) EXISTING PANEL ANTENNAS (2 PER SECTOR) TO BE REMOVED AND REPLACED BY (3) RFS APX16DWV-16DWVS-E-A20 PANEL ANTENNAS (1 PER SECTOR) MOUNTED ON EXSITNG LOW PROFILE PLATFORM

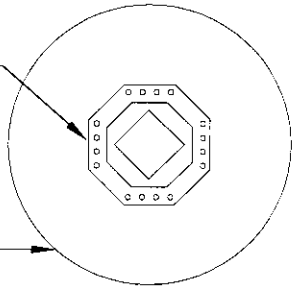
TOP CL&P POLE
±95'-0" AGL

℄ TOP CONNECTION
EL. ±92'-1" AGL

℄ BOTTOM CONNECTION
EL. ±78'-9" AGL

51-1/2" DIA. BASE PL. W/ (16) 2-1/4" DIA. A615 GRADE 75 ANCHOR BOLTS

10' DIA. CONCRETE PIER FOUNDATION



2 EL-1 **BASEPLATE PLAN**
NOT TO SCALE

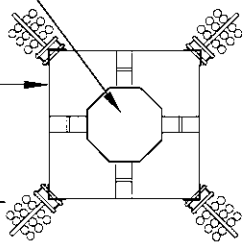
EXISTING 95' TALL CL&P STEEL POLE STRUCTURE NO. 1256

EXISTING (24) 1-5/8" DIA. COAX CABLES

EXISTING 95' TALL CL&P POLE NO.1256

EXISTING PCS LATTTICE STRUCTURE

(6) EXISTING 1-5/8" COAX CABLES MOUNTED ON EXISTING BRACKET (TYP. OF 4)



3 EL-1 **COAX MOUNTING PLAN**
NOT TO SCALE

1 EL-1 **POLE + PCS STRUCTURE ELEVATION**
SCALE: NOT TO SCALE

REVISIONS		
00	4/30/09	REPORT

NATCOMM CONSULTING ENGINEERS
p: 203.488.0580 f: 203.488.8587
w: nat-eng.com e: info@nat-eng.com
63-2 N. Branford Rd. Branford, CT 06405

GREENWICH RIVERSIDE
NU STRUCTURE #1256

160 SOUND BEACH RD
GREENWICH, CT 06830

PROJECT NO:	08174.C06
DRAWN BY:	TJL
CHECKED BY:	CFC
SCALE:	AS NOTED
DATE:	4/30/09

T-Mobile

POLE & MAST ELEVATION

EL-1

DWG. 1 OF 1

Development of Design Heights, Exposure Coefficients, and Velocity Pressures Per TIA/EIA

Wind Speeds

Basic Wind Speed, V	$V := 85$	mph	(per NU Mast Design Criteria Exception 1)
Basic Wind Speed with Ice, V_i	$V_i := 74$	mph	(per TIA/EIA-222-F Section 2.3.16)

Heights above ground level, z

Angle Members, z_{mem}	$z_{mem} := 103$	ft
Antenna, z_{ant}	$z_{ant} := 110$	ft
Mount, z_{mnt}	$z_{mnt} := 110$	ft
Coax Cable, z_{coax}	$z_{coax} := 93$	ft

Exposure Coefficients, kz

(per TIA/EIA-222-F Section 2.3.3)

Angle Member, kz_{mem}: $Kz_{mem} := \left(\frac{z_{mem}}{33}\right)^{\frac{2}{7}} = 1.384$

Antenna, kz_{ant}: $Kz_{ant} := \left(\frac{z_{ant}}{33}\right)^{\frac{2}{7}} = 1.411$

Mount, kz_{mnt}: $Kz_{mnt} := \left(\frac{z_{mnt}}{33}\right)^{\frac{2}{7}} = 1.411$

Coax Cable, kz_{coax}: $Kz_{coax} := \left(\frac{z_{coax}}{33}\right)^{\frac{2}{7}} = 1.345$

Velocity Pressure without ice, qz (per TIA/EIA-222-F Section 2.3.3)

Angle Members, qz_{mem}: $qz_{mem} := 0.00256 \cdot Kz_{mem} \cdot V^2 = 25.604$

Antenna, qz_{ant}: $qz_{ant} := 0.00256 \cdot Kz_{ant} \cdot V^2 = 26.09$

Mount, qz_{mnt}: $qz_{mnt} := 0.00256 \cdot Kz_{mnt} \cdot V^2 = 26.09$

Coax Cable, qz_{coax}: $qz_{coax} := 0.00256 \cdot Kz_{coax} \cdot V^2 = 24.868$

Velocity Pressure with ice, qzICE (per TIA/EIA-222-F Section 2.3.3)

Angle Members, $qzICE_{mem}$: $qzICE_{mem} := 0.00256 \cdot Kz_{mem} \cdot V_i^2 = 19.406$

Antenna, $qzICE_{ant}$: $qzICE_{ant} := 0.00256 \cdot Kz_{ant} \cdot V_i^2 = 19.774$

Mount, $qzICE_{mnt}$: $qzICE_{mnt} := 0.00256 \cdot Kz_{mnt} \cdot V_i^2 = 19.774$

Coax Cable, $qzICE_{coax}$: $qzICE_{coax} := 0.00256 \cdot Kz_{coax} \cdot V_i^2 = 18.848$

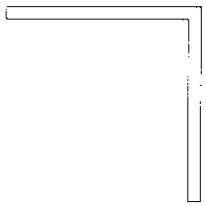
TIA/EIA Common Factors:

Gust Response Factor =	$G_H := 1.69$		(per TIA/EIA-222-F Section 2.3.4)
Gust Response Factor Multiplier =	$m := 1.25$		(per TIA/EIA-222-F Section 2.3.4.4)
Radial Ice Thickness =	$Ir := 0.50$	in	(per TIA/EIA-222-F Section 2.3.1)
Radial Ice Density =	$Id := 56.00$	pcf	

Development of Wind & Ice Load on L3.5x3.5x5/16 (per TIA/EIA-222-F-1996 Criteria)

L3.5x3.5x5/16 Data:

Shape = Flat



Length = $L := 32$ ft

Width = $b := 3.5$ in

Thickness = $t := 0.3125$ in

Member Cross Sectional Area = $A_{member} := 2.09$ in^2

Member Aspect Ratio = $Ar_{member} := \frac{12L}{b} = 109.7$

Member Force Coefficient = $Ca_{member} = 2$ (per TIA/EIA-222-F Table 3)

Gravity Loads (without ice)

Weight of the Member = Self Weight **(Computed internally by Risa-3D)** plf **BLC 1**

Gravity Loads (ice only)

Ice Area per Linear Foot = $Ai_{member} := (b - t)(t + 2 \cdot Ir) + (b + 2 \cdot Ir)(t + 2 \cdot Ir) - A_{member} = 8$

Weight of Ice on Member = $W_{ICE\_member} := Id \cdot \frac{Ai_{member}}{144} = 3$ plf **BLC 3**

Wind Load (without ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Member Projected Surface Area = $A_{member} := \frac{b}{12} = 0.292$ ft

Total Member Wind Force = $qz_{mem} \cdot G_H \cdot Ca_{member} \cdot A_{member} = 25$ plf **BLC 5**

Wind Load (with ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

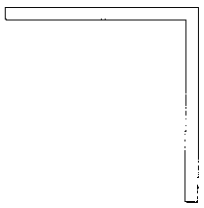
Member Projected Surface Area w/ Ice = $AICE_{member} := \frac{(b + 2 \cdot Ir)}{12} = 0.375$ ft

Total Member Wind Force w/ Ice = $qzICE_{mem} \cdot G_H \cdot Ca_{member} \cdot AICE_{member} = 25$ plf **BLC 4**

Development of Wind & Ice Load on L1.5x1.5x3/16 (per TIA/EIA-222-F-1996 Criteria)

L1.5x1.5x3/16 Data:

Shape = Flat



Length = $L := 4$ ft

Width = $b := 1.5$ in

Thickness = $t := 0.1875$ in

Member Cross Sectional Area = $A_{member} := 0.527$ in^2

Member Aspect Ratio = $Ar_{member} := \frac{12L}{b} = 32.0$

Member Force Coefficient = $Ca_{member} = 2$ (per TIA/EIA-222-F Table 3)

Gravity Loads (without ice)

Weight of the Member = Self Weight **(Computed internally by Risa-3D)** plf **BLC 1**

Gravity Loads (Ice only)

Ice Area per Linear Foot = $Ai_{member} := (b - t)(t + 2 \cdot Ir) + (b + 2 \cdot Ir)(t + 2 \cdot Ir) - A_{member} = 4$

Weight of Ice on Member = $W_{ICE\_member} := Id \cdot \frac{Ai_{member}}{144} = 2$ plf **BLC 3**

Wind Load (without ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Member Projected Surface Area = $A_{member} := \frac{b}{12} = 0.125$ ft

Total Member Wind Force = $qz_{mem} \cdot G_H \cdot Ca_{member} \cdot A_{member} = 11$ plf **BLC 5**

Wind Load (with ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Member Projected Surface Area w/ Ice = $AICE_{member} := \frac{(b + 2 \cdot Ir)}{12} = 0.208$ ft

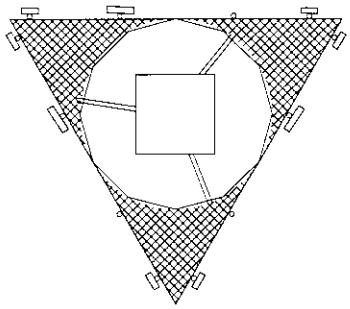
Total Member Wind Force w/ Ice = $qzICE_{mem} \cdot G_H \cdot Ca_{member} \cdot AICE_{member} = 14$ plf **BLC 4**

Development of Wind & Ice Load on Antennas (per TIA/EIA-222-F-1996 Criteria)

Antenna Data:

Antenna Model = RFS APX16DWV-DWVS-E-A20

Antenna Shape = Flat



Antenna Height = $L_{ant} := 55.9$ in

Antenna Width = $W_{ant} := 13.0$ in

Antenna Thickness = $T_{ant} := 3.15$ in

Antenna Weight = $WT_{ant} := 40.7$ lbs

Number of Antennas = $N_{ant} := 3$

Antenna Aspect Ratio = $Ar_{ant} := \frac{L_{ant}}{W_{ant}} = 4.3$

Antenna Force Coefficient = $Ca_{ant} = 1.4$ (per TIA/EIA-222-F-1996 Table 3)

Wind Load (without Ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Assumes Maximum Possible Wind Pressure on Antennas

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 5$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 15.1$ sf

Total Antenna Wind Force = $F_{ant} := qz_{ant} \cdot G_H \cdot Ca_{ant} \cdot A_{ant} = 935$ lbs **BLC 5**

Wind Load (with ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Assumes Maximum Possible Wind Pressure on Antennas

Surface Area for One Antenna w/ Ice = $SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 5.5$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 16.6$ sf

Total Antenna Wind Force w/ Ice = $Fi_{ant} := qzICE_{ant} \cdot G_H \cdot Ca_{ant} \cdot A_{ICEant} = 776$ lbs **BLC 4**

Gravity Load (without Ice)

Weight of All Antennas = $WT_{ant} \cdot N_{ant} = 122$ lbs **BLC 2**

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 2289$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 1017$ cu in

Weight of Ice on Each Antenna = $W_{ICEant} := \frac{V_{ice}}{1728} \cdot ld = 33$ lbs

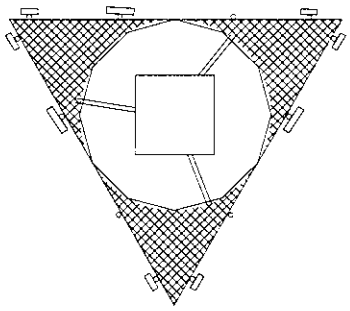
Weight of Ice on All Antennas = $W_{ICEant} \cdot N_{ant} = 99$ lbs **BLC 3**

Development of Wind & Ice Load on Antennas (per TIA/EIA-222-F-1996 Criteria)

Antenna Data:

Antenna Model = EMS RR90-17-02DP

Antenna Shape = Flat



Antenna Height = $L_{ant2} := 56$ in

Antenna Width = $W_{ant2} := 8$ in

Antenna Thickness = $T_{ant2} := 2.75$ in

Antenna Weight = $WT_{ant2} := 13.5$ lbs

Number of Antennas = $N_{ant2} := 6$

Antenna Aspect Ratio = $Ar_{ant2} := \frac{L_{ant2}}{W_{ant2}} = 7.0$

Antenna Force Coefficient = $Ca_{ant2} = 1.4$ (per TIA/EIA-222-F-1996 Table 3)

Wind Load (without ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Assumes Maximum Possible Wind Pressure on Antennas

Surface Area for One Antenna = $SA_{ant2} := \frac{L_{ant2} \cdot W_{ant2}}{144} = 3.1$ sf

Antenna Projected Surface Area = $A_{ant2} := SA_{ant2} \cdot N_{ant2} = 18.7$ sf

Total Antenna Wind Force = $F_{ant2} := qz_{ant} \cdot G_H \cdot Ca_{ant2} \cdot A_{ant2} = 1152$ lbs **BLC 5**

Wind Load (with ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Assumes Maximum Possible Wind Pressure on Antennas

Surface Area for One Antenna w/ Ice = $SA_{ICEant2} := \frac{(L_{ant2} + 1) \cdot (W_{ant2} + 1)}{144} = 3.6$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant2} := SA_{ICEant2} \cdot N_{ant2} = 21.4$ sf

Total Antenna Wind Force w/ Ice = $Fi_{ant2} := qzICE_{ant} \cdot G_H \cdot Ca_{ant2} \cdot A_{ICEant2} = 1000$ lbs **BLC 4**

Gravity Load (without ice)

Weight of All Antennas = $WT_{ant2} \cdot N_{ant2} = 81$ lbs **BLC 2**

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant2} := L_{ant2} \cdot W_{ant2} \cdot T_{ant2} = 1232$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant2} + 1)(W_{ant2} + 1) \cdot (T_{ant2} + 1) - V_{ant2} = 692$ cu in

Weight of Ice on Each Antenna = $W_{ICEant2} := \frac{V_{ice}}{1728} \cdot Id = 22$ lbs

Weight of Ice on All Antennas = $W_{ICEant2} \cdot N_{ant2} = 135$ lbs **BLC 3**

NATCOMM INC CONSULTING ENGINEERS	Subject:	Load Analysis of PCS Lattice Extension on CL&P Pole #1256
	Location:	Greenwich, CT
p: 203.488.0580 f: 203.488.8587 w: tcal-eng.com 63-2 N. Branford Rd. Branford, CT 06405	Rev. 0: 04/20/09	Prepared by: T.J.L Checked by: C.F.C. Job No. 08174-CO.6

Development of Wind & Ice Load on Antenna Mounts (per TIA/EIA-222-F-1996 Criteria)

Mount Data:

Mount Type: Mounting Pipes

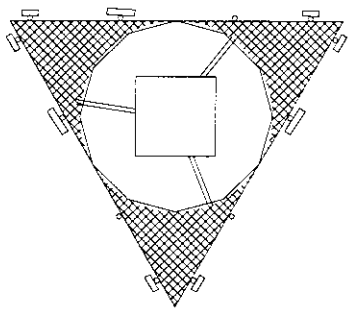
Mount Shape = Round

Pipe Mount Length = $L_{mnt} := 72$ in

2 inch Pipe Mount Linear Weight = $W_{mnt} := 3.66$ plf

Pipe Mount Outside Diameter = $D_{mnt} := 2.375$ in

Number of Mounting Pipes = $N_{mnt} := 12$



Mount Aspect Ratio = $Ar_{mnt} := \frac{L_{mnt}}{D_{mnt}} = 30$

Appurtenance Force Factor = $Ca_{mnt} = 1.2$ (per TIA/EIA-222-F Table 3)

Wind Load (without ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Assumes Mount is Shielded by Antenna

Mount Projected Surface Area = $A_{mnt} := 0.0$ sf

Total Mount Wind Force = $F_{mnt} := qz_{mnt} \cdot G_H \cdot Ca_{mnt} \cdot A_{mnt} = 0$ lbs **BLC 5**

Wind Load (with ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Assumes Mount is Shielded by Antenna

Mount Projected Surface Area w/ Ice = $A_{ICEmnt} := 0.0$ sf

Total Mount Wind Force = $Fi_{mnt} := qzICE_{mnt} \cdot G_H \cdot Ca_{mnt} \cdot A_{ICEmnt} = 0$ lbs **BLC 4**

Gravity Loads (without ice) (per TIA/EIA-222-F-1996)

Weight Each Pipe Mount = $WT_{mnt} := W_{mnt} \cdot \frac{L_{mnt}}{12} = 22$ lbs

Weight of All Mounts = $WT_{mnt} \cdot N_{mnt} = 264$ lbs **BLC 2**

Gravity Loads (ice only) (per TIA/EIA-222-F-1996)

Volume of Each Pipe = $V_{mnt} := \frac{\pi}{4} \cdot D_{mnt}^{2} \cdot L_{mnt} = 319$ cu in

Volume of Ice on Each Pipe = $V_{ice} := \left[\frac{\pi}{4} \cdot \left[\left(D_{mnt} + 1\right)^2\right] \cdot \left(L_{mnt} + 1\right)\right] - V_{mnt} = 334$ cu in

Weight of Ice each mount (incl, hardware) = $W_{ICEmnt} := \frac{V_{ice}}{1728} \cdot Id = 11$ lbs

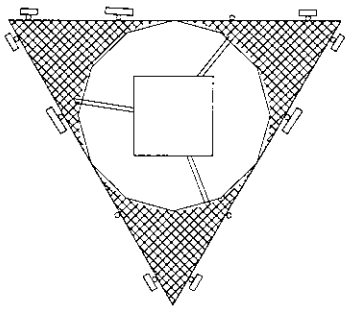
Weight of Ice on All Mounts = $W_{ICEmnt} \cdot N_{mnt} = 130$ lbs **BLC 3**

Development of Wind & Ice Load on Platform (per TIA/EIA-222-F-1996 Criteria)

Platform Data:

Platform Model = Valmount 15' Low Profile Platform

Platform Shape = Flat



(Force Coefficient Value Included in Area) Platform Area = $A_{plt} := 17.3$ sq ft

(Force Coefficient Value Included in Area) Platform Area w/ Ice = $A_{ICEplt} := 22.1$ sq ft

Platform Weight = $WT_{plt} := 1500$ lbs

Platform Weight w/ Ice = $WT_{ICEplt} := 2030$ lbs

Wind Load (without ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Total Platform Wind Force = $F_{plt} := qz_{mnt} \cdot G_H \cdot A_{plt} = 763$ lbs **BLC 5**

Wind Load (with ice) (per TIA/EIA-222-F-1996 Section 2.3.2)

Total Platform Wind Force w/ Ice = $Fi_{plt} := qziCE_{mnt} \cdot G_H \cdot A_{ICEplt} = 739$ lbs **BLC 4**

Gravity Load (without ice)

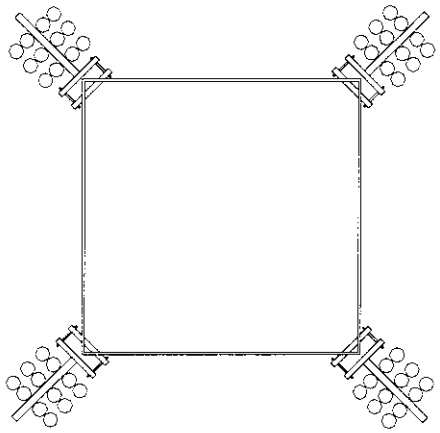
Weight of Platform = $WT_{plt} = 1500$ lbs **BLC 2**

Gravity Load (ice only)

Weight of Ice on Platform = $WT_{ICEplt} - WT_{plt} = 530$ lbs **BLC 3**

Development of Wind & Ice Load on Coax Cables per TIA/EIA-222-F-96 Criteria

Coax Cable Data:



Coax Type =	HELIAX 1-5/8"		
Shape =	Round		
Coax Outside Diameter =	$D_{coax} := 1.98$	in	
Coax Cable Length =	$L_{coax} := 14$	ft	
Weight of Coax per foot =	$Wt_{coax} := 1.04$	plf	
Total Number of Coax =	$N_{coax} := 24$		
No. of Coax Projecting Outside Face of PCS Structure =	$NP_{coax} := 6$		

Coax aspect ratio, $Ar_{coax} := \frac{(L_{coax} \cdot 12)}{D_{coax}} = 84.8$

Coax Cable Force Factor Coefficient = $Ca_{coax} = 1.2$ TIA/EIA-222-F-96 Table 3

Wind Load (without ice) per TIA/EIA-222-F-96 Section 2.3.2

Coax projected surface area = $A_{coax} := \frac{(NP_{coax} D_{coax})}{12} = 1$ ft

Total Coax Wind Force = $F_{coax} := Ca_{coax} \cdot qz_{coax} \cdot G_H \cdot A_{coax} = 50$ plf **BLC 5**

Wind Load (with ice) per TIA/EIA-222-F-96 Section 2.3.2

Coax projected surface area w/ Ice = $AICE_{coax} := \frac{(NP_{coax} \cdot D_{coax} + 2 \cdot Ir)}{12} = 1.1$ ft

Total Coax Wind Force w/ Ice = $Fi_{coax} := Ca_{coax} \cdot qzICE_{coax} \cdot G_H \cdot AICE_{coax} = 41$ plf **BLC 4**

Gravity Loads (without ice)

Weight of all cables w/o ice $WT_{coax} := Wt_{coax} \cdot N_{coax} = 25$ plf **BLC 2**

Gravity Loads (ice only)

Ice Area per Linear Foot = $Ai_{coax} := \frac{\pi}{4}\left[(D_{coax} + 2 \cdot Ir)^2 - D_{coax}^2\right] = 3.9$ sq in

Ice Weight All Coax per foot = $WTi_{coax} := N_{coax} \cdot Id \cdot \frac{Ai_{coax}}{144} = 36$ plf **BLC 3**

NATCOMM, INC.	Subject:	**Analysis of TIA/EIA Wind and Ice Loads for Design of PCS Structure Only**
Consulting Engineers		**Tabulated Load Cases**
63-2 North Branford Road		
Branford, CT 06405	Location:	**Greenwich, CT**
Ph. 203-488-0580 / Fax. 203-488-8587	Date: 4/27/09	Prepared by: T.J.L. Checked by: C.F.C. Job No. 08174.CO6

Load Case	Description
1	Self Weight (PCS Lattice Members)
2	Weight of Antennas, Platform and Coax Cables (no Ice)
3	Weight of Ice Only on PCS Structure
4	TIA/EIA Wind with Ice on PCS Structure
5	TIA/EIA Wind on PCS Structure

Footnotes:
(1) PCS Structure includes: Lattice Members, Antennas, Platform, Coax Cable

NATCOMM, INC.
Consulting Engineers
63-2 North Branford Road
Branford, CT 06405
Ph. 203-488-0580 / Fax. 203-488-8587

Subject: **Analysis of TIA/EIA Wind and Ice Loads for Design of PCS Structure Only**
Load Combinations Table

Location: **Greenwich, CT**

Date: 4/27/09 Prepared by: T.J.L. Checked by: C.F.C. Job No. 08174.CO6

Load Combination	Description	Envelope Soultion	Wind Factor	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	TIA/EIA Wind + Ice on PCS Structure		1		1	1	2	1	3	1	4	1		
2	TIA/EIA Wind on PCS Structure		1		1	1	2	1	5	1				

Footnotes:
(1) BLC = Basic Load Case
(2) PCS Structure includes: lattice members, antennas, platform, coax cable, and miscellaneous hardware

Global

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation	Yes
Include Warping	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Vertical Axis	Y

Hot Rolled Steel Code	AISC: ASD 9th
Cold Formed Steel Code	AISI 99: ASD
Wood Code	NDS 91/97: ASD
Wood Temperature	< 100F
Concrete Code	ACI 2002

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	PCA Load Contour
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections	Yes
Bad Framing Warnings	No
Unused Force Warnings	Yes

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]
1	A36 Gr.36	29000	11154	.3	.65	.49	36
2	A572 Gr.50	29000	11154	.3	.65	.49	50
3	A992	29000	11154	.3	.65	.49	50
4	A500 Gr.42	29000	11154	.3	.65	.49	42
5	A500 Gr.46	29000	11154	.3	.65	.49	46
6	A53 Gr. B	29000	11154	.3	.65	.49	35

Hot Rolled Steel Design Parameters

	Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	Kyy	Kzz	Cm-yy	Cm-...	Cb	y sw...	z sw...	Function
1	M1	L3.5X3....	21.58	Segment	Segment										Lateral
2	M2	L3.5X3....	9.83	Segment	Segment										Lateral
3	M3	L3.5X3....	21.58	Segment	Segment										Lateral
4	M4	L3.5X3....	9.83	Segment	Segment										Lateral
5	M5	L3.5X3....	21.58	Segment	Segment										Lateral
6	M6	L3.5X3....	9.83	Segment	Segment										Lateral
7	M7	L3.5X3....	21.58	Segment	Segment										Lateral
8	M8	L3.5X3....	9.83	Segment	Segment										Lateral
9	M9	L1.5X1....	2.313												Lateral
10	M10	L1.5X1....	2.313												Lateral
11	M11	L1.5X1....	2.313												Lateral
12	M12	L1.5X1....	2.313												Lateral
13	M13	L1.5X1....	3.989												Lateral
14	M14	L1.5X1....	3.989												Lateral
15	M15	L1.5X1....	3.989												Lateral
16	M16	L1.5X1....	3.989												Lateral
17	M17	L1.5X1....	3.989												Lateral
18	M18	L1.5X1....	3.989												Lateral
19	M19	L1.5X1....	3.989												Lateral
20	M20	L1.5X1....	3.989												Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	Kyy	Kzz	Cm-yy	Cm-...	Cb	y sw...	z sw...	Function
21	M21	L1.5X1....	3.989												Lateral
22	M22	L1.5X1....	3.989												Lateral
23	M23	L1.5X1....	3.989												Lateral
24	M24	L1.5X1....	3.989												Lateral
25	M25	L1.5X1....	3.989												Lateral
26	M26	L1.5X1....	3.989												Lateral
27	M27	L1.5X1....	3.989												Lateral
28	M28	L1.5X1....	3.989												Lateral
29	M29	L1.5X1....	3.989												Lateral
30	M30	L1.5X1....	3.989												Lateral
31	M31	L1.5X1....	2.313												Lateral
32	M32	L1.5X1....	2.313												Lateral
33	M33	L1.5X1....	3.989												Lateral
34	M34	L1.5X1....	3.989												Lateral
35	M35	L1.5X1....	2.313												Lateral
36	M36	L1.5X1....	2.313												Lateral
37	M37	L1.5X1....	2.9												Lateral
38	M38	L1.5X1....	2.9												Lateral
39	M39	L1.5X1....	2.9												Lateral
40	M40	L1.5X1....	2.9												Lateral
41	M41	L1.5X1....	2.9												Lateral
42	M42	L1.5X1....	2.9												Lateral
43	M43	L1.5X1....	2.9												Lateral
44	M44	L1.5X1....	2.9												Lateral
45	M45	L1.5X1....	2.313												Lateral
46	M46	L1.5X1....	2.313												Lateral
47	M47	L1.5X1....	2.313												Lateral
48	M48	L1.5X1....	2.313												Lateral
49	M49	L1.5X1....	2.313												Lateral
50	M50	L1.5X1....	2.313												Lateral
51	M51	L1.5X1....	2.313												Lateral
52	M52	L1.5X1....	2.313												Lateral
53	M53	L1.5X1....	3.82												Lateral
54	M54	L1.5X1....	3.82												Lateral
55	M55	L1.5X1....	2.313												Lateral
56	M56	L1.5X1....	3.82												Lateral
57	M57	L1.5X1....	3.82												Lateral
58	M58	L1.5X1....	2.313												Lateral
59	M59	L1.5X1....	3.532												Lateral
60	M60	L1.5X1....	3.532												Lateral
61	M61	L1.5X1....	3.532												Lateral
62	M62	L1.5X1....	3.532												Lateral
63	M63	L1.5X1....	3.532												Lateral
64	M64	L1.5X1....	3.532												Lateral
65	M65	L1.5X1....	3.532												Lateral
66	M66	L1.5X1....	3.532												Lateral
67	M67	L1.5X1....	3.532												Lateral
68	M68	L1.5X1....	3.532												Lateral
69	M69	L1.5X1....	3.532												Lateral
70	M70	L1.5X1....	3.532												Lateral
71	M71	L1.5X1....	3.532												Lateral
72	M72	L1.5X1....	3.532												Lateral
73	M73	L1.5X1....	3.532												Lateral
74	M74	L1.5X1....	3.532												Lateral
75	M75	L1.5X1....	3.532												Lateral
76	M76	L1.5X1....	3.532												Lateral
77	M77	L1.5X1....	3.532												Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	Kyy	Kzz	Cm-yy	Cm-...	Cb	y sw...	z sw...	Function
78	M78	L1.5X1....	3.532												Lateral
79	M79	L1.5X1....	3.532												Lateral
80	M80	L1.5X1....	3.532												Lateral
81	M81	L1.5X1....	3.532												Lateral
82	M82	L1.5X1....	3.532												Lateral
83	M83	L1.5X1....	3.532												Lateral
84	M84	L1.5X1....	3.532												Lateral
85	M85	L1.5X1....	3.532												Lateral
86	M86	L1.5X1....	3.532												Lateral
87	M87	L1.5X1....	3.532												Lateral
88	M88	L1.5X1....	3.532												Lateral
89	M89	L1.5X1....	3.532												Lateral
90	M90	L1.5X1....	3.532												Lateral
91	M91	L1.5X1....	3.171												Lateral
92	M92	L1.5X1....	3.171												Lateral
93	M93	L1.5X1....	3.171												Lateral
94	M94	L1.5X1....	3.171												Lateral
95	M95	L1.5X1....	3.171												Lateral
96	M96	L1.5X1....	3.171												Lateral
97	M97	L1.5X1....	3.171												Lateral
98	M98	L1.5X1....	3.171												Lateral
99	M99	C6X8.2	2.313												Lateral
100	M100	C6X8.2	2.313												Lateral
101	M101	C6X8.2	2.313												Lateral
102	M102	C6X8.2	2.313												Lateral
103	M103	L1.5X1....	1.529												Lateral
104	M104	L1.5X1....	1.529												Lateral
105	M105	L1.5X1....	1.529												Lateral
106	M106	L1.5X1....	1.529												Lateral
107	M107	L1.5X1....	1.529												Lateral
108	M108	L1.5X1....	1.529												Lateral
109	M109	L1.5X1....	1.529												Lateral
110	M110	L1.5X1....	1.529												Lateral
111	M111	L1.5X1....	1.529												Lateral
112	M112	L1.5X1....	1.529												Lateral
113	M113	L1.5X1....	1.529												Lateral
114	M114	L1.5X1....	1.529												Lateral
115	M115	L1.5X1....	1.529												Lateral
116	M116	L1.5X1....	1.529												Lateral
117	M117	L1.5X1....	1.529												Lateral
118	M118	L1.5X1....	1.529												Lateral

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	L1.5X1.5X3/16	L1.5X1.5X3	Beam	Single Angle	A36 Gr.36	Typical	.527	.11	.11	.007
2	L3.5X3.5X5/16	L3.5X3.5X5	Beam	Single Angle	A36 Gr.36	Typical	2.09	2.45	2.45	.073
3	C6X8.2	C6X8.2	Beam	Channel	A36 Gr.36	Typical	2.4	.693	13.1	.08

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotat...	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N33	LC3			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
2	M2	LC3	N48			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
3	M3	N1	LC1			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
4	M4	LC1	N16			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
5	M5	N49	LC4			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotat...	Section/Shape	Type	Design List	Material	Design Rules
6	M6	LC4	N64			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
7	M7	N17	LC2			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
8	M8	LC2	N32			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
9	M9	N2	N18			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
10	M10	N18	N50			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
11	M11	N50	N34			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
12	M12	N34	N2			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
13	M13	N3	N20			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
14	M14	N19	N4			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
15	M15	N19	N52			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
16	M16	N51	N20			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
17	M17	N51	N36			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
18	M18	N35	N52			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
19	M19	N35	N4			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
20	M20	N3	N36			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
21	M21	N4	N21			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
22	M22	N5	N20			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
23	M23	N20	N53			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
24	M24	N52	N21			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
25	M25	N52	N37			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
26	M26	N36	N53			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
27	M27	N36	N5			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
28	M28	N4	N37			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
29	M29	N37	N54			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
30	M30	N53	N38			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
31	M31	N53	N21			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
32	M32	N37	N5			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
33	M33	N5	N22			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
34	M34	N21	N6			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
35	M35	N54	N22			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
36	M36	N38	N6			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
37	M37	N6	N23			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
38	M38	N22	N7			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
39	M39	N54	N23			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
40	M40	N22	N55			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
41	M41	N38	N55			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
42	M42	N54	N39			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
43	M43	N38	N7			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
44	M44	N6	N39			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
45	M45	N56	N24			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
46	M46	N8	N40			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
47	M47	N58	N26			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
48	M48	N42	N10			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
49	M49	N40	N56			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
50	M50	N8	N24			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
51	M51	N42	N58			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
52	M52	N10	N26			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
53	M53	N42	N56			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
54	M54	N40	N58			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
55	M55	N41	N57			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
56	M56	N10	N24			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
57	M57	N8	N26			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
58	M58	N9	N25			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
59	M59	N58	N27			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
60	M60	N59	N26			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
61	M61	N58	N43			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
62	M62	N42	N59			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotat...	Section/Shape	Type	Design List	Material	Design Rules
63	M63	N42	N11			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
64	M64	N43	N10			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
65	M65	N10	N27			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
66	M66	N26	N11			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
67	M67	N43	N60			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
68	M68	N44	N59			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
69	M69	N59	N28			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
70	M70	N60	N27			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
71	M71	N43	N12			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
72	M72	N44	N11			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
73	M73	N11	N28			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
74	M74	N12	N27			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
75	M75	N44	N13			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
76	M76	N45	N12			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
77	M77	N12	N29			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
78	M78	N13	N28			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
79	M79	N61	N28			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
80	M80	N60	N29			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
81	M81	N44	N61			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
82	M82	N45	N60			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
83	M83	N46	N61			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
84	M84	N45	N62			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
85	M85	N45	N14			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
86	M86	N46	N13			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
87	M87	N13	N30			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
88	M88	N14	N29			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
89	M89	N61	N30			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
90	M90	N62	N29			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
91	M91	N46	N63			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
92	M92	N47	N62			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
93	M93	N46	N15			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
94	M94	N47	N14			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
95	M95	N15	N30			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
96	M96	N14	N31			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
97	M97	N62	N31			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
98	M98	N63	N30			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
99	M99	N48	N64			C6X8.2	Beam	Channel	A36 Gr.36	Typical
100	M100	N64	N32			C6X8.2	Beam	Channel	A36 Gr.36	Typical
101	M101	N32	N16			C6X8.2	Beam	Channel	A36 Gr.36	Typical
102	M102	N16	N48			C6X8.2	Beam	Channel	A36 Gr.36	Typical
103	M103	N79	N77			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
104	M104	N77	N75			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
105	M105	N80	N78			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
106	M106	N78	N76			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
107	M107	N74	N72			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
108	M108	N72	N70			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
109	M109	N69	N71			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
110	M110	N71	N73			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
111	M111	N91	N89			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
112	M112	N89	N87			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
113	M113	N88	N90			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
114	M114	N90	N92			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
115	M115	N85	N83			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
116	M116	N83	N81			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
117	M117	N82	N84			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
118	M118	N84	N86			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
119	M119	N93	N99			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotat...	Section/Shape	Type	Design List	Material	Design Rules
120	M120	N94	N99			RIGID	None	None	RIGID	Typical
121	M121	N95	N99			RIGID	None	None	RIGID	Typical
122	M122	N96	N99			RIGID	None	None	RIGID	Typical
123	M123	N100	N98			RIGID	None	None	RIGID	Typical
124	M124	N101	N98			RIGID	None	None	RIGID	Typical
125	M125	N103	N98			RIGID	None	None	RIGID	Typical
126	M126	N102	N98			RIGID	None	None	RIGID	Typical
127	M127	N16	N97			RIGID	None	None	RIGID	Typical
128	M128	N32	N97			RIGID	None	None	RIGID	Typical
129	M129	N64	N97			RIGID	None	None	RIGID	Typical
130	M130	N48	N97			RIGID	None	None	RIGID	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
1	N1	0	0	0	0	
2	N2	0	1.61	0	0	
3	N3	0	1.82	0	0	
4	N4	0	5.07	0	0	
5	N5	0	8.32	0	0	
6	N6	0	11.57	0	0	
7	N7	0	13.32	0	0	
8	N8	0	15.03	0	0	
9	N9	0	16.55	0	0	
10	N10	0	18.07	0	0	
11	N11	0	20.74	0	0	
12	N12	0	23.41	0	0	
13	N13	0	26.08	0	0	
14	N14	0	28.75	0	0	
15	N15	0	30.92	0	0	
16	N16	0	31.41	0	0	
17	N17	2.3125	0	0	0	
18	N18	2.3125	1.61	0	0	
19	N19	2.3125	1.82	0	0	
20	N20	2.3125	5.07	0	0	
21	N21	2.3125	8.32	0	0	
22	N22	2.3125	11.57	0	0	
23	N23	2.3125	13.32	0	0	
24	N24	2.3125	15.03	0	0	
25	N25	2.3125	16.55	0	0	
26	N26	2.3125	18.07	0	0	
27	N27	2.3125	20.74	0	0	
28	N28	2.3125	23.41	0	0	
29	N29	2.3125	26.08	0	0	
30	N30	2.3125	28.75	0	0	
31	N31	2.3125	30.92	0	0	
32	N32	2.3125	31.41	0	0	
33	N33	0	0	2.3125	0	
34	N34	0	1.61	2.3125	0	
35	N35	0	1.82	2.3125	0	
36	N36	0	5.07	2.3125	0	
37	N37	0	8.32	2.3125	0	
38	N38	0	11.57	2.3125	0	
39	N39	0	13.32	2.3125	0	
40	N40	0	15.03	2.3125	0	
41	N41	0	16.55	2.3125	0	
42	N42	0	18.07	2.3125	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
43	N43	0	20.74	2.3125	0	
44	N44	0	23.41	2.3125	0	
45	N45	0	26.08	2.3125	0	
46	N46	0	28.75	2.3125	0	
47	N47	0	30.92	2.3125	0	
48	N48	0	31.41	2.3125	0	
49	N49	2.3125	0	2.3125	0	
50	N50	2.3125	1.61	2.3125	0	
51	N51	2.3125	1.82	2.3125	0	
52	N52	2.3125	5.07	2.3125	0	
53	N53	2.3125	8.32	2.3125	0	
54	N54	2.3125	11.57	2.3125	0	
55	N55	2.3125	13.32	2.3125	0	
56	N56	2.3125	15.03	2.3125	0	
57	N57	2.3125	16.55	2.3125	0	
58	N58	2.3125	18.07	2.3125	0	
59	N59	2.3125	20.74	2.3125	0	
60	N60	2.3125	23.41	2.3125	0	
61	N61	2.3125	26.08	2.3125	0	
62	N62	2.3125	28.75	2.3125	0	
63	N63	2.3125	30.92	2.3125	0	
64	N64	2.3125	31.41	2.3125	0	
65	LC1	0	21.58	0	0	
66	LC2	2.3125	21.58	0	0	
67	LC3	0	21.58	2.3125	0	
68	LC4	2.3125	21.58	2.3125	0	
69	N69	0	9.32	0	0	
70	N70	0	10.57	0	0	
71	N71	0	8.32	1.1563	0	
72	N72	0	11.57	1.1563	0	
73	N73	0	9.32	2.3125	0	
74	N74	0	10.57	2.3125	0	
75	N75	2.3125	9.32	0	0	
76	N76	2.3125	10.57	0	0	
77	N77	2.3125	8.32	1.1563	0	
78	N78	2.3125	11.57	1.1563	0	
79	N79	2.3125	9.32	2.3125	0	
80	N80	2.3125	10.57	2.3125	0	
81	N81	0	16.03	0	0	
82	N82	0	17.07	0	0	
83	N83	0	15.03	1.1563	0	
84	N84	0	18.07	1.1563	0	
85	N85	0	16.03	2.3125	0	
86	N86	0	17.07	2.3125	0	
87	N87	2.3125	16.03	0	0	
88	N88	2.3125	17.07	0	0	
89	N89	2.3125	15.03	1.1563	0	
90	N90	2.3125	18.07	1.1563	0	
91	N91	2.3125	16.03	2.3125	0	
92	N92	2.3125	17.07	2.3125	0	
93	N93	0	.81	0	0	
94	N94	2.3125	.81	0	0	
95	N95	0	.81	2.3125	0	
96	N96	2.3125	.81	2.3125	0	
97	N97	1.1563	31.41	1.1563	0	
98	N98	1.1563	14.18	1.1563	0	
99	N99	1.1563	.81	1.1563	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
100	N100	0	14.18	0	0	
101	N101	2.3125	14.18	0	0	
102	N102	0	14.18	2.3125	0	
103	N103	2.3125	14.18	2.3125	0	Yes

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]	Footing
1	N98	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction	
2	N99	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction	

Joint Loads and Enforced Displacements (BLC 2 : Weight of PCS Structure)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*ft...
1	N97	L	Y	-.122
2	N97	L	Y	-.081
3	N97	L	Y	-.264
4	N97	L	Y	-1.5

Joint Loads and Enforced Displacements (BLC 3 : Weight of Ice Only on PCS Mast +)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*ft...
1	N97	L	Y	-.099
2	N97	L	Y	-.135
3	N97	L	Y	-.13
4	N97	L	Y	-.53

Joint Loads and Enforced Displacements (BLC 4 : TIA/EIA Wind with Ice on PCS Mas)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*ft...
1	N97	L	Z	-.776
2	N97	L	Z	-1
3	N97	L	Z	-.739

Joint Loads and Enforced Displacements (BLC 5 : TIA/EIA Extreme Wind on PCS Mast)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*ft...
1	N97	L	Z	-.935
2	N97	L	Z	-1.152
3	N97	L	Z	-.763

Member Distributed Loads (BLC 2 : Weight of PCS Structure)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M2	Y	-.006	-.006	0	0
2	M1	Y	-.006	-.006	0	0
3	M6	Y	-.006	-.006	0	0
4	M5	Y	-.006	-.006	0	0
5	M4	Y	-.006	-.006	0	0
6	M3	Y	-.006	-.006	0	0
7	M8	Y	-.006	-.006	0	0
8	M7	Y	-.006	-.006	0	0

Member Distributed Loads (BLC 3 : Weight of Ice Only on PCS Mast +)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M9	Y	-.002	-.002	0	0
2	M10	Y	-.002	-.002	0	0

Member Distributed Loads (BLC 3 : Weight of Ice Only on PCS Mast +) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
3	M11	Y	-.002	-.002	0	0
4	M12	Y	-.002	-.002	0	0
5	M13	Y	-.002	-.002	0	0
6	M14	Y	-.002	-.002	0	0
7	M15	Y	-.002	-.002	0	0
8	M16	Y	-.002	-.002	0	0
9	M17	Y	-.002	-.002	0	0
10	M18	Y	-.002	-.002	0	0
11	M19	Y	-.002	-.002	0	0
12	M20	Y	-.002	-.002	0	0
13	M21	Y	-.002	-.002	0	0
14	M22	Y	-.002	-.002	0	0
15	M23	Y	-.002	-.002	0	0
16	M24	Y	-.002	-.002	0	0
17	M25	Y	-.002	-.002	0	0
18	M26	Y	-.002	-.002	0	0
19	M27	Y	-.002	-.002	0	0
20	M28	Y	-.002	-.002	0	0
21	M29	Y	-.002	-.002	0	0
22	M30	Y	-.002	-.002	0	0
23	M31	Y	-.002	-.002	0	0
24	M32	Y	-.002	-.002	0	0
25	M33	Y	-.002	-.002	0	0
26	M34	Y	-.002	-.002	0	0
27	M35	Y	-.002	-.002	0	0
28	M36	Y	-.002	-.002	0	0
29	M37	Y	-.002	-.002	0	0
30	M38	Y	-.002	-.002	0	0
31	M39	Y	-.002	-.002	0	0
32	M40	Y	-.002	-.002	0	0
33	M41	Y	-.002	-.002	0	0
34	M42	Y	-.002	-.002	0	0
35	M43	Y	-.002	-.002	0	0
36	M44	Y	-.002	-.002	0	0
37	M45	Y	-.002	-.002	0	0
38	M46	Y	-.002	-.002	0	0
39	M47	Y	-.002	-.002	0	0
40	M48	Y	-.002	-.002	0	0
41	M49	Y	-.002	-.002	0	0
42	M50	Y	-.002	-.002	0	0
43	M51	Y	-.002	-.002	0	0
44	M52	Y	-.002	-.002	0	0
45	M53	Y	-.002	-.002	0	0
46	M54	Y	-.002	-.002	0	0
47	M55	Y	-.002	-.002	0	0
48	M56	Y	-.002	-.002	0	0
49	M57	Y	-.002	-.002	0	0
50	M58	Y	-.002	-.002	0	0
51	M59	Y	-.002	-.002	0	0
52	M60	Y	-.002	-.002	0	0
53	M61	Y	-.002	-.002	0	0
54	M62	Y	-.002	-.002	0	0
55	M63	Y	-.002	-.002	0	0
56	M64	Y	-.002	-.002	0	0
57	M65	Y	-.002	-.002	0	0
58	M66	Y	-.002	-.002	0	0
59	M67	Y	-.002	-.002	0	0

Member Distributed Loads (BLC 3 : Weight of Ice Only on PCS Mast +) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
60	M68	Y	-.002	-.002	0	0
61	M69	Y	-.002	-.002	0	0
62	M70	Y	-.002	-.002	0	0
63	M71	Y	-.002	-.002	0	0
64	M72	Y	-.002	-.002	0	0
65	M73	Y	-.002	-.002	0	0
66	M74	Y	-.002	-.002	0	0
67	M75	Y	-.002	-.002	0	0
68	M76	Y	-.002	-.002	0	0
69	M77	Y	-.002	-.002	0	0
70	M78	Y	-.002	-.002	0	0
71	M79	Y	-.002	-.002	0	0
72	M80	Y	-.002	-.002	0	0
73	M81	Y	-.002	-.002	0	0
74	M82	Y	-.002	-.002	0	0
75	M83	Y	-.002	-.002	0	0
76	M84	Y	-.002	-.002	0	0
77	M85	Y	-.002	-.002	0	0
78	M86	Y	-.002	-.002	0	0
79	M87	Y	-.002	-.002	0	0
80	M88	Y	-.002	-.002	0	0
81	M89	Y	-.002	-.002	0	0
82	M90	Y	-.002	-.002	0	0
83	M91	Y	-.002	-.002	0	0
84	M92	Y	-.002	-.002	0	0
85	M93	Y	-.002	-.002	0	0
86	M94	Y	-.002	-.002	0	0
87	M95	Y	-.002	-.002	0	0
88	M96	Y	-.002	-.002	0	0
89	M97	Y	-.002	-.002	0	0
90	M98	Y	-.002	-.002	0	0
91	M99	Y	-.002	-.002	0	0
92	M100	Y	-.002	-.002	0	0
93	M101	Y	-.002	-.002	0	0
94	M102	Y	-.002	-.002	0	0
95	M103	Y	-.002	-.002	0	0
96	M104	Y	-.002	-.002	0	0
97	M105	Y	-.002	-.002	0	0
98	M106	Y	-.002	-.002	0	0
99	M107	Y	-.002	-.002	0	0
100	M108	Y	-.002	-.002	0	0
101	M109	Y	-.002	-.002	0	0
102	M110	Y	-.002	-.002	0	0
103	M111	Y	-.002	-.002	0	0
104	M112	Y	-.002	-.002	0	0
105	M113	Y	-.002	-.002	0	0
106	M114	Y	-.002	-.002	0	0
107	M115	Y	-.002	-.002	0	0
108	M116	Y	-.002	-.002	0	0
109	M117	Y	-.002	-.002	0	0
110	M118	Y	-.002	-.002	0	0
111	M2	Y	-.003	-.003	0	0
112	M1	Y	-.003	-.003	0	0
113	M7	Y	-.003	-.003	0	0
114	M8	Y	-.003	-.003	0	0
115	M4	Y	-.003	-.003	0	0
116	M6	Y	-.003	-.003	0	0

Member Distributed Loads (BLC 3 : Weight of Ice Only on PCS Mast +) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
117	M3	Y	-.003	-.003	0	0
118	M5	Y	-.003	-.003	0	0
119	M2	Y	-.009	-.009	0	0
120	M1	Y	-.009	-.009	0	0
121	M6	Y	-.009	-.009	0	0
122	M5	Y	-.009	-.009	0	0
123	M4	Y	-.009	-.009	0	0
124	M3	Y	-.009	-.009	0	0
125	M8	Y	-.009	-.009	0	0
126	M7	Y	-.009	-.009	0	0

Member Distributed Loads (BLC 4 : TIA/EIA Wind with Ice on PCS Mas)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M2	Z	-.025	-.025	0	0
2	M1	Z	-.025	-.025	0	0
3	M6	Z	-.025	-.025	0	0
4	M5	Z	-.025	-.025	0	0
5	M99	Z	-.011	-.011	0	0
6	M92	Z	-.011	-.011	0	0
7	M91	Z	-.011	-.011	0	0
8	M83	Z	-.011	-.011	0	0
9	M84	Z	-.011	-.011	0	0
10	M82	Z	-.011	-.011	0	0
11	M81	Z	-.011	-.011	0	0
12	M68	Z	-.011	-.011	0	0
13	M67	Z	-.011	-.011	0	0
14	M61	Z	-.011	-.011	0	0
15	M62	Z	-.011	-.011	0	0
16	M51	Z	-.011	-.011	0	0
17	M55	Z	-.011	-.011	0	0
18	M49	Z	-.011	-.011	0	0
19	M53	Z	-.011	-.011	0	0
20	M46	Z	-.011	-.011	0	0
21	M41	Z	-.011	-.011	0	0
22	M42	Z	-.011	-.011	0	0
23	M30	Z	-.011	-.011	0	0
24	M29	Z	-.011	-.011	0	0
25	M25	Z	-.011	-.011	0	0
26	M26	Z	-.011	-.011	0	0
27	M17	Z	-.011	-.011	0	0
28	M18	Z	-.011	-.011	0	0
29	M2	Z	-.02	-.02	0	0
30	M1	Z	-.02	-.02	0	0
31	M6	Z	-.02	-.02	0	0
32	M5	Z	-.02	-.02	0	0
33	M11	Z	-.011	-.011	0	0

Member Distributed Loads (BLC 5 : TIA/EIA Extreme Wind on PCS Mast)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M2	Z	-.025	-.025	0	0
2	M6	Z	-.025	-.025	0	0
3	M1	Z	-.025	-.025	0	0
4	M5	Z	-.025	-.025	0	0
5	M11	Z	-.014	-.014	0	0
6	M17	Z	-.014	-.014	0	0
7	M18	Z	-.014	-.014	0	0
8	M25	Z	-.014	-.014	0	0

Member Distributed Loads (BLC 5 : TIA/EIA Extreme Wind on PCS Mast) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
9	M26	Z	-.014	-.014	0	0
10	M29	Z	-.014	-.014	0	0
11	M30	Z	-.014	-.014	0	0
12	M41	Z	-.014	-.014	0	0
13	M42	Z	-.014	-.014	0	0
14	M49	Z	-.014	-.014	0	0
15	M51	Z	-.014	-.014	0	0
16	M53	Z	-.014	-.014	0	0
17	M54	Z	-.014	-.014	0	0
18	M55	Z	-.014	-.014	0	0
19	M61	Z	-.014	-.014	0	0
20	M62	Z	-.014	-.014	0	0
21	M67	Z	-.014	-.014	0	0
22	M68	Z	-.014	-.014	0	0
23	M81	Z	-.014	-.014	0	0
24	M82	Z	-.014	-.014	0	0
25	M83	Z	-.014	-.014	0	0
26	M84	Z	-.014	-.014	0	0
27	M91	Z	-.014	-.014	0	0
28	M92	Z	-.014	-.014	0	0
29	M99	Z	-.014	-.014	0	0
30	M2	Z	-.025	-.025	0	0
31	M1	Z	-.025	-.025	0	0
32	M6	Z	-.025	-.025	0	0
33	M5	Z	-.025	-.025	0	0

Basic Load Cases

	BLC Description	Category	X Gra...	Y Grav...	Z Gra...	Joint	Point	Distributed	Area (Mem...	Surfa...
1	Self Weight (PCS Mast)	None		-1						
2	Weight of PCS Structure	None				4		8		
3	Weight of Ice Only on PCS Mast +	None				4		126		
4	TIA/EIA Wind with Ice on PCS Mas	None				3		33		
5	TIA/EIA Extreme Wind on PCS Mast	None				3		33		

Load Combinations

	Description	Solve	PD...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
1	TIA/EIA Wind + Ice on PCS Mast and..	Yes			1	1	2	1	3	1	4	1								
2	TIA/EIA Extreme Wind on PCS Mast ...	Yes			1	1	2	1	5	1										
3	Self Weight																			

Envelope Member Section Forces

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1	M1	1	max	0	1	0	1	0	1	0	1	0	1	0	1
2			min	0	1	0	1	0	1	0	1	0	1	0	1
3		2	max	.207	1	-.001	1	.072	2	0	2	-.02	1	-.012	1
4			min	.194	2	-.002	2	.065	1	0	1	-.022	2	-.013	2
5		3	max	-.005	2	.005	2	.018	2	0	2	-.018	1	-.022	1
6			min	-.068	1	.005	1	.017	1	0	1	-.02	2	-.024	2
7		4	max	-8.78	1	-.138	1	1.271	2	0	2	-.257	1	-.369	1
8			min	-10.616	2	-.16	2	1.111	1	0	1	-.294	2	-.421	2
9		5	max	-5.27	1	-.041	1	.048	2	0	1	.01	2	-.082	1
10			min	-6.551	2	-.048	2	.044	1	0	2	.008	1	-.092	2
11	M2	1	max	-5.27	1	-.041	1	.048	2	0	1	.01	2	-.082	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
12			min	-6.551	2	-.048	2	.044	1	0	2	.008	1	-.092	2
13		2	max	-3.23	1	.016	2	.029	2	0	1	-.018	1	-.012	1
14			min	-4.152	2	.013	1	.026	1	0	2	-.021	2	-.014	2
15		3	max	-1.595	1	-.007	1	.084	2	0	1	-.005	2	-.034	1
16			min	-2.239	2	-.008	2	.075	1	0	2	-.005	1	-.038	2
17		4	max	-.02	1	-.003	1	-.117	1	0	1	.007	2	.001	2
18			min	-.388	2	-.003	2	-.134	2	0	2	.006	1	0	1
19		5	max	.73	1	.005	2	.71	2	0	1	0	1	0	1
20			min	.51	2	.005	1	.626	1	0	2	0	1	0	1
21	M3	1	max	0	1	0	1	0	1	0	1	0	1	0	1
22			min	0	1	0	1	0	1	0	1	0	1	0	1
23		2	max	-.103	1	-.001	1	.01	2	0	2	-.008	1	-.002	1
24			min	-.162	2	-.002	2	.009	1	0	1	-.009	2	-.004	2
25		3	max	-.067	2	.004	2	.051	2	0	1	-.023	1	-.024	1
26			min	-.122	1	.003	1	.044	1	0	2	-.027	2	-.029	2
27		4	max	11.93	2	-.031	1	1.233	2	0	2	-.26	1	-.403	1
28			min	11.002	1	-.04	2	1.08	1	0	1	-.297	2	-.459	2
29		5	max	7.78	2	.021	1	-.004	2	0	1	-.013	1	-.032	1
30			min	7.327	1	.02	2	-.007	1	0	2	-.014	2	-.04	2
31	M4	1	max	7.78	2	.021	1	-.004	2	0	1	-.013	1	-.032	1
32			min	7.327	1	.02	2	-.007	1	0	2	-.014	2	-.04	2
33		2	max	5.311	2	-.022	1	.005	1	0	1	-.002	1	-.056	1
34			min	5.096	1	-.023	2	.004	2	0	2	-.002	2	-.06	2
35		3	max	3.268	2	.01	2	.037	2	0	1	-.014	1	-.01	1
36			min	3.261	1	.009	1	.032	1	0	2	-.016	2	-.013	2
37		4	max	1.578	1	-.008	1	-.171	1	0	1	.03	2	.004	1
38			min	1.412	2	-.009	2	-.194	2	0	2	.027	1	.003	2
39		5	max	.747	1	0	1	.731	2	0	1	0	1	0	1
40			min	.511	2	-.003	2	.643	1	0	2	0	1	0	1
41	M5	1	max	0	1	0	1	0	1	0	1	0	1	0	1
42			min	0	1	0	1	0	1	0	1	0	1	0	1
43		2	max	.185	1	0	2	.071	2	0	1	-.02	1	-.011	2
44			min	.169	2	0	1	.064	1	0	2	-.022	2	-.011	1
45		3	max	.026	2	.003	2	.02	2	0	2	-.019	1	-.02	1
46			min	-.042	1	.003	1	.018	1	0	1	-.021	2	-.022	2
47		4	max	-8.695	1	-.045	1	1.253	2	0	1	-.24	1	-.376	1
48			min	-10.511	2	-.049	2	1.086	1	0	2	-.277	2	-.435	2
49		5	max	-5.224	1	.014	2	.026	1	0	1	-.006	1	-.039	1
50			min	-6.494	2	.01	1	.025	2	0	2	-.007	2	-.04	2
51	M6	1	max	-5.224	1	.014	2	.026	1	0	1	-.006	1	-.039	1
52			min	-6.494	2	.01	1	.025	2	0	2	-.007	2	-.04	2
53		2	max	-3.234	1	-.016	1	.037	2	0	1	0	1	-.044	1
54			min	-4.156	2	-.02	2	.032	1	0	2	-.001	2	-.053	2
55		3	max	-1.533	1	.01	2	.083	2	0	1	-.018	1	-.019	1
56			min	-2.178	2	.009	1	.075	1	0	2	-.021	2	-.019	2
57		4	max	-.018	1	-.008	1	-.122	1	0	2	.019	2	-.011	1
58			min	-.4	2	-.009	2	-.139	2	0	1	.016	1	-.011	2
59		5	max	.748	1	-.005	2	.732	2	0	2	0	1	0	1
60			min	.511	2	-.006	1	.647	1	0	1	0	1	0	1
61	M7	1	max	0	1	0	1	0	1	0	1	0	1	0	1
62			min	0	1	0	1	0	1	0	1	0	1	0	1
63		2	max	-.123	1	-.004	1	.012	2	0	1	-.007	1	-.006	1
64			min	-.185	2	-.005	2	.011	1	0	2	-.008	2	-.007	2
65		3	max	-.04	2	.007	2	.049	2	0	2	-.023	1	-.026	1
66			min	-.098	1	.006	1	.042	1	0	1	-.027	2	-.03	2
67		4	max	12.042	2	-.148	1	1.25	2	0	1	-.274	1	-.383	1
68			min	11.108	1	-.167	2	1.087	1	0	2	-.315	2	-.44	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
69		5	max	7.835	2	-.044	1	.024	2	0	1	.005	1	-.087	1
70			min	7.38	1	-.05	2	.019	1	0	2	.005	2	-.1	2
71	M8	1	max	7.835	2	-.044	1	.024	2	0	1	.005	1	-.087	1
72			min	7.38	1	-.05	2	.019	1	0	2	.005	2	-.1	2
73		2	max	5.31	2	.017	2	-.004	1	0	1	-.022	1	-.013	1
74			min	5.095	1	.015	1	-.006	2	0	2	-.024	2	-.015	2
75		3	max	3.326	2	-.007	1	.037	2	0	2	0	1	-.03	1
76			min	3.305	1	-.008	2	.033	1	0	1	0	2	-.035	2
77		4	max	1.551	1	-.003	1	-.166	1	0	2	.019	2	.012	2
78			min	1.395	2	-.003	2	-.188	2	0	1	.017	1	.011	1
79		5	max	.73	1	.003	2	.709	2	0	2	0	1	0	1
80			min	.51	2	.002	1	.625	1	0	1	0	1	0	1
81	M9	1	max	-.008	2	.004	1	0	1	0	1	0	1	0	1
82			min	-.01	1	.002	2	0	1	0	2	0	1	0	1
83		2	max	-.008	2	.002	1	0	1	0	1	.001	1	0	2
84			min	-.01	1	.001	2	0	1	0	2	0	2	-.001	1
85		3	max	-.008	2	0	1	0	1	0	1	.002	1	0	2
86			min	-.01	1	0	1	0	1	0	2	0	2	-.002	1
87		4	max	-.008	2	-.001	2	0	1	0	1	.001	1	0	2
88			min	-.01	1	-.002	1	0	1	0	2	0	2	-.001	1
89		5	max	-.008	2	-.002	2	0	1	0	1	0	1	0	1
90			min	-.01	1	-.004	1	0	1	0	2	0	1	0	1
91	M10	1	max	.041	2	.004	1	0	1	0	2	0	1	0	1
92			min	.033	1	.002	2	0	1	0	1	0	1	0	1
93		2	max	.041	2	.002	1	0	1	0	2	.001	1	0	2
94			min	.033	1	.001	2	0	1	0	1	0	2	-.001	1
95		3	max	.041	2	0	1	0	1	0	2	.002	1	0	2
96			min	.033	1	0	1	0	1	0	1	0	2	-.002	1
97		4	max	.041	2	-.001	2	0	1	0	2	.001	1	0	2
98			min	.033	1	-.002	1	0	1	0	1	0	2	-.001	1
99		5	max	.041	2	-.002	2	0	1	0	2	0	1	0	1
100			min	.033	1	-.004	1	0	1	0	1	0	1	0	1
101	M11	1	max	.005	2	.004	1	-.013	1	0	1	0	1	0	1
102			min	.002	1	.002	2	-.016	2	0	2	0	1	0	1
103		2	max	.005	2	.002	1	-.006	1	0	1	-.003	1	-.005	1
104			min	.002	1	.001	2	-.008	2	0	2	-.004	2	-.006	2
105		3	max	.005	2	0	1	0	1	0	1	-.003	1	-.007	1
106			min	.002	1	0	1	0	1	0	2	-.006	2	-.007	2
107		4	max	.005	2	-.001	2	.008	2	0	1	-.003	1	-.005	1
108			min	.002	1	-.002	1	.006	1	0	2	-.004	2	-.006	2
109		5	max	.005	2	-.002	2	.016	2	0	1	0	1	0	1
110			min	.002	1	-.004	1	.013	1	0	2	0	1	0	1
111	M12	1	max	.039	2	.004	1	0	1	0	2	0	1	0	1
112			min	.031	1	.002	2	0	1	0	1	0	1	0	1
113		2	max	.039	2	.002	1	0	1	0	2	.001	1	0	2
114			min	.031	1	.001	2	0	1	0	1	0	2	-.001	1
115		3	max	.039	2	0	1	0	1	0	2	.002	1	0	2
116			min	.031	1	0	1	0	1	0	1	0	2	-.002	1
117		4	max	.039	2	-.001	2	0	1	0	2	.001	1	0	2
118			min	.031	1	-.002	1	0	1	0	1	0	2	-.001	1
119		5	max	.039	2	-.002	2	0	1	0	2	0	1	0	1
120			min	.031	1	-.004	1	0	1	0	1	0	1	0	1
121	M13	1	max	.028	1	.004	1	0	1	0	1	0	1	0	1
122			min	.025	2	.002	2	0	1	0	2	0	1	0	1
123		2	max	.025	1	.002	1	0	1	0	1	.002	1	-.001	2
124			min	.023	2	.001	2	0	1	0	2	.001	2	-.002	1
125		3	max	.022	2	0	1	0	1	0	1	.003	1	-.001	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
126			min	.021	1	0	1	0	1	0	2	.001	2	-.003	1
127		4	max	.02	2	-.001	2	0	1	0	1	.002	1	-.001	2
128			min	.018	1	-.002	1	0	1	0	2	.001	2	-.002	1
129		5	max	.019	2	-.002	2	0	1	0	1	0	1	0	1
130			min	.015	1	-.004	1	0	1	0	2	0	1	0	1
131	M14	1	max	.01	1	.004	1	0	1	0	2	0	1	0	1
132			min	.005	2	.002	2	0	1	0	1	0	1	0	1
133		2	max	.007	1	.002	1	0	1	0	2	.002	1	-.001	2
134			min	.003	2	.001	2	0	1	0	1	.001	2	-.002	1
135		3	max	.004	1	0	1	0	1	0	2	.003	1	-.001	2
136			min	.002	2	0	1	0	1	0	1	.001	2	-.003	1
137		4	max	.001	1	-.001	2	0	1	0	2	.002	1	-.001	2
138			min	0	2	-.002	1	0	1	0	1	.001	2	-.002	1
139		5	max	-.001	2	-.002	2	0	1	0	2	0	1	0	1
140			min	-.002	1	-.004	1	0	1	0	1	0	1	0	1
141	M15	1	max	.386	2	.004	1	0	1	0	1	0	1	0	1
142			min	.344	1	.002	2	0	1	0	2	0	1	0	1
143		2	max	.384	2	.002	1	0	1	0	1	.002	1	-.001	2
144			min	.341	1	.001	2	0	1	0	2	.001	2	-.002	1
145		3	max	.383	2	0	1	0	1	0	1	.003	1	-.001	2
146			min	.338	1	0	1	0	1	0	2	.001	2	-.003	1
147		4	max	.381	2	-.001	2	0	1	0	1	.002	1	-.001	2
148			min	.335	1	-.002	1	0	1	0	2	.001	2	-.002	1
149		5	max	.38	2	-.002	2	0	1	0	1	0	1	0	1
150			min	.332	1	-.004	1	0	1	0	2	0	1	0	1
151	M16	1	max	-.155	1	.004	1	0	1	0	2	0	1	0	1
152			min	-.186	2	.002	2	0	1	0	1	0	1	0	1
153		2	max	-.158	1	.002	1	0	1	0	2	.002	1	-.001	2
154			min	-.187	2	.001	2	0	1	0	1	.001	2	-.002	1
155		3	max	-.161	1	0	1	0	1	0	2	.003	1	-.001	2
156			min	-.189	2	0	1	0	1	0	1	.001	2	-.003	1
157		4	max	-.164	1	-.001	2	0	1	0	2	.002	1	-.001	2
158			min	-.19	2	-.002	1	0	1	0	1	.001	2	-.002	1
159		5	max	-.167	1	-.002	2	0	1	0	2	0	1	0	1
160			min	-.192	2	-.004	1	0	1	0	1	0	1	0	1
161	M17	1	max	-.003	1	.004	1	-.022	1	0	2	0	1	0	1
162			min	-.01	2	.002	2	-.028	2	0	1	0	1	0	1
163		2	max	-.006	1	.002	1	-.011	1	0	2	-.009	1	-.014	1
164			min	-.012	2	.001	2	-.014	2	0	1	-.014	2	-.016	2
165		3	max	-.009	1	0	1	0	1	0	2	-.012	1	-.019	1
166			min	-.013	2	0	1	0	1	0	1	-.018	2	-.021	2
167		4	max	-.012	1	-.001	2	.014	2	0	2	-.009	1	-.014	1
168			min	-.015	2	-.002	1	.011	1	0	1	-.014	2	-.016	2
169		5	max	-.015	1	-.002	2	.028	2	0	2	0	1	0	1
170			min	-.016	2	-.004	1	.022	1	0	1	0	1	0	1
171	M18	1	max	.009	1	.004	1	.028	2	0	1	0	1	0	1
172			min	.003	2	.002	2	.022	1	0	2	0	1	0	1
173		2	max	.006	1	.002	1	.014	2	0	1	.016	2	.014	2
174			min	.001	2	.001	2	.011	1	0	2	.014	1	.009	1
175		3	max	.003	1	0	1	0	1	0	1	.021	2	.018	2
176			min	0	2	0	1	0	1	0	2	.019	1	.012	1
177		4	max	0	1	-.001	2	-.011	1	0	1	.016	2	.014	2
178			min	-.001	2	-.002	1	-.014	2	0	2	.014	1	.009	1
179		5	max	-.003	2	-.002	2	-.022	1	0	1	0	1	0	1
180			min	-.003	1	-.004	1	-.028	2	0	2	0	1	0	1
181	M19	1	max	-.151	1	.004	1	0	1	0	2	0	1	0	1
182			min	-.182	2	.002	2	0	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
183		2	max	-.154	1	.002	1	0	1	0	2	.002	1	-.001	2
184			min	-.184	2	.001	2	0	1	0	1	.001	2	-.002	1
185		3	max	-.157	1	0	1	0	1	0	2	.003	1	-.001	2
186			min	-.185	2	0	1	0	1	0	1	.001	2	-.003	1
187		4	max	-.16	1	-.001	2	0	1	0	2	.002	1	-.001	2
188			min	-.186	2	-.002	1	0	1	0	1	.001	2	-.002	1
189		5	max	-.163	1	-.002	2	0	1	0	2	0	1	0	1
190			min	-.188	2	-.004	1	0	1	0	1	0	1	0	1
191	M20	1	max	.39	2	.004	1	0	1	0	1	0	1	0	1
192			min	.347	1	.002	2	0	1	0	2	0	1	0	1
193		2	max	.389	2	.002	1	0	1	0	1	.002	1	-.001	2
194			min	.344	1	.001	2	0	1	0	2	.001	2	-.002	1
195		3	max	.387	2	0	1	0	1	0	1	.003	1	-.001	2
196			min	.341	1	0	1	0	1	0	2	.001	2	-.003	1
197		4	max	.386	2	-.001	2	0	1	0	1	.002	1	-.001	2
198			min	.338	1	-.002	1	0	1	0	2	.001	2	-.002	1
199		5	max	.384	2	-.002	2	0	1	0	1	0	1	0	1
200			min	.335	1	-.004	1	0	1	0	2	0	1	0	1
201	M21	1	max	.004	1	.004	1	0	1	0	2	0	1	0	1
202			min	.001	2	.002	2	0	1	0	1	0	1	0	1
203		2	max	.001	1	.002	1	0	1	0	2	.002	1	-.001	2
204			min	0	2	.001	2	0	1	0	1	.001	2	-.002	1
205		3	max	-.001	2	0	1	0	1	0	2	.003	1	-.001	2
206			min	-.002	1	0	1	0	1	0	1	.001	2	-.003	1
207		4	max	-.003	2	-.001	2	0	1	0	2	.002	1	-.001	2
208			min	-.005	1	-.002	1	0	1	0	1	.001	2	-.002	1
209		5	max	-.004	2	-.002	2	0	1	0	2	0	1	0	1
210			min	-.008	1	-.004	1	0	1	0	1	0	1	0	1
211	M22	1	max	-.019	2	.004	1	0	1	0	1	0	1	0	1
212			min	-.021	1	.002	2	0	1	0	2	0	1	0	1
213		2	max	-.017	2	.002	1	0	1	0	1	.002	1	-.001	2
214			min	-.018	1	.001	2	0	1	0	2	.001	2	-.002	1
215		3	max	-.015	1	0	1	0	1	0	1	.003	1	-.001	2
216			min	-.016	2	0	1	0	1	0	2	.001	2	-.003	1
217		4	max	-.012	1	-.001	2	0	1	0	1	.002	1	-.001	2
218			min	-.014	2	-.002	1	0	1	0	2	.001	2	-.002	1
219		5	max	-.009	1	-.002	2	0	1	0	1	0	1	0	1
220			min	-.013	2	-.004	1	0	1	0	2	0	1	0	1
221	M23	1	max	.137	2	.004	1	0	1	0	2	0	1	0	1
222			min	.119	1	.002	2	0	1	0	1	0	1	0	1
223		2	max	.135	2	.002	1	0	1	0	2	.002	1	-.001	2
224			min	.115	1	.001	2	0	1	0	1	.001	2	-.002	1
225		3	max	.134	2	0	1	0	1	0	2	.003	1	-.001	2
226			min	.112	1	0	1	0	1	0	1	.001	2	-.003	1
227		4	max	.132	2	-.001	2	0	1	0	2	.002	1	-.001	2
228			min	.109	1	-.002	1	0	1	0	1	.001	2	-.002	1
229		5	max	.131	2	-.002	2	0	1	0	2	0	1	0	1
230			min	.106	1	-.004	1	0	1	0	1	0	1	0	1
231	M24	1	max	.04	2	.004	1	0	1	0	1	0	1	0	1
232			min	.036	1	.002	2	0	1	0	2	0	1	0	1
233		2	max	.039	2	.002	1	0	1	0	1	.002	1	-.001	2
234			min	.033	1	.001	2	0	1	0	2	.001	2	-.002	1
235		3	max	.037	2	0	1	0	1	0	1	.003	1	-.001	2
236			min	.03	1	0	1	0	1	0	2	.001	2	-.003	1
237		4	max	.036	2	-.001	2	0	1	0	1	.002	1	-.001	2
238			min	.027	1	-.002	1	0	1	0	2	.001	2	-.002	1
239		5	max	.034	2	-.002	2	0	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
240			min	.024	1	-.004	1	0	1	0	2	0	1	0	1
241	M25	1	max	-.003	1	.004	1	-.022	1	0	1	0	1	0	1
242			min	-.007	2	.002	2	-.028	2	0	2	0	1	0	1
243		2	max	-.006	1	.002	1	-.011	1	0	1	-.009	1	-.014	1
244			min	-.009	2	.001	2	-.014	2	0	2	-.014	2	-.016	2
245		3	max	-.009	1	0	1	0	1	0	1	-.012	1	-.019	1
246			min	-.01	2	0	1	0	1	0	2	-.018	2	-.021	2
247		4	max	-.011	2	-.001	2	.014	2	0	1	-.009	1	-.014	1
248			min	-.013	1	-.002	1	.011	1	0	2	-.014	2	-.016	2
249		5	max	-.013	2	-.002	2	.028	2	0	1	0	1	0	1
250			min	-.016	1	-.004	1	.022	1	0	2	0	1	0	1
251	M26	1	max	.021	2	.004	1	.028	2	0	2	0	1	0	1
252			min	.02	1	.002	2	.022	1	0	1	0	1	0	1
253		2	max	.019	2	.002	1	.014	2	0	2	.016	2	.014	2
254			min	.017	1	.001	2	.011	1	0	1	.014	1	.009	1
255		3	max	.018	2	0	1	0	1	0	2	.021	2	.018	2
256			min	.014	1	0	1	0	1	0	1	.019	1	.012	1
257		4	max	.016	2	-.001	2	-.011	1	0	2	.016	2	.014	2
258			min	.011	1	-.002	1	-.014	2	0	1	.014	1	.009	1
259		5	max	.015	2	-.002	2	-.022	1	0	2	0	1	0	1
260			min	.008	1	-.004	1	-.028	2	0	1	0	1	0	1
261	M27	1	max	.039	2	.004	1	0	1	0	1	0	1	0	1
262			min	.034	1	.002	2	0	1	0	2	0	1	0	1
263		2	max	.038	2	.002	1	0	1	0	1	.002	1	-.001	2
264			min	.031	1	.001	2	0	1	0	2	.001	2	-.002	1
265		3	max	.036	2	0	1	0	1	0	1	.003	1	-.001	2
266			min	.028	1	0	1	0	1	0	2	.001	2	-.003	1
267		4	max	.035	2	-.001	2	0	1	0	1	.002	1	-.001	2
268			min	.025	1	-.002	1	0	1	0	2	.001	2	-.002	1
269		5	max	.033	2	-.002	2	0	1	0	1	0	1	0	1
270			min	.022	1	-.004	1	0	1	0	2	0	1	0	1
271	M28	1	max	.137	2	.004	1	0	1	0	2	0	1	0	1
272			min	.12	1	.002	2	0	1	0	1	0	1	0	1
273		2	max	.136	2	.002	1	0	1	0	2	.002	1	-.001	2
274			min	.117	1	.001	2	0	1	0	1	.001	2	-.002	1
275		3	max	.134	2	0	1	0	1	0	2	.003	1	-.001	2
276			min	.114	1	0	1	0	1	0	1	.001	2	-.003	1
277		4	max	.133	2	-.001	2	0	1	0	2	.002	1	-.001	2
278			min	.111	1	-.002	1	0	1	0	1	.001	2	-.002	1
279		5	max	.131	2	-.002	2	0	1	0	2	0	1	0	1
280			min	.108	1	-.004	1	0	1	0	1	0	1	0	1
281	M29	1	max	.025	1	.004	1	.028	2	0	2	0	1	0	1
282			min	.025	2	.002	2	.022	1	0	1	0	1	0	1
283		2	max	.023	2	.002	1	.014	2	0	2	.016	2	.014	2
284			min	.022	1	.001	2	.011	1	0	1	.014	1	.009	1
285		3	max	.022	2	0	1	0	1	0	2	.021	2	.018	2
286			min	.019	1	0	1	0	1	0	1	.019	1	.012	1
287		4	max	.02	2	-.001	2	-.011	1	0	2	.016	2	.014	2
288			min	.016	1	-.002	1	-.014	2	0	1	.014	1	.009	1
289		5	max	.019	2	-.002	2	-.022	1	0	2	0	1	0	1
290			min	.013	1	-.004	1	-.028	2	0	1	0	1	0	1
291	M30	1	max	-.012	1	.004	1	-.022	1	0	1	0	1	0	1
292			min	-.018	2	.002	2	-.028	2	0	2	0	1	0	1
293		2	max	-.015	1	.002	1	-.011	1	0	1	-.009	1	-.014	1
294			min	-.019	2	.001	2	-.014	2	0	2	-.014	2	-.016	2
295		3	max	-.018	1	0	1	0	1	0	1	-.012	1	-.019	1
296			min	-.021	2	0	1	0	1	0	2	-.018	2	-.021	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
297		4	max	-.021	1	-.001	2	.014	2	0	1	-.009	1	-.014	1
298			min	-.022	2	-.002	1	.011	1	0	2	-.014	2	-.016	2
299		5	max	-.024	2	-.002	2	.028	2	0	1	0	1	0	1
300			min	-.024	1	-.004	1	.022	1	0	2	0	1	0	1
301	M31	1	max	.161	2	.002	1	0	2	0	2	0	1	0	1
302			min	.143	1	.002	2	0	1	0	1	0	1	0	1
303		2	max	.161	2	0	2	0	2	0	2	0	1	0	2
304			min	.143	1	0	1	0	1	0	1	0	2	0	1
305		3	max	-.019	1	.002	1	0	2	0	1	0	2	0	1
306			min	-.026	2	0	2	0	1	0	2	0	1	0	2
307		4	max	-.019	1	0	1	0	2	0	1	0	1	0	2
308			min	-.026	2	0	2	0	1	0	2	0	2	0	1
309		5	max	-.019	1	-.002	2	0	2	0	1	0	1	0	1
310			min	-.026	2	-.002	1	0	1	0	2	0	1	0	1
311	M32	1	max	.157	2	.002	1	0	2	0	2	0	1	0	1
312			min	.14	1	.002	2	0	1	0	1	0	1	0	1
313		2	max	.157	2	0	2	0	2	0	2	0	1	0	2
314			min	.14	1	0	1	0	1	0	1	0	2	0	1
315		3	max	-.022	1	.002	1	0	2	0	1	0	2	0	1
316			min	-.029	2	0	2	0	1	0	2	0	1	0	2
317		4	max	-.022	1	0	1	0	2	0	1	0	1	0	2
318			min	-.029	2	0	2	0	1	0	2	0	2	0	1
319		5	max	-.022	1	-.002	2	0	2	0	1	0	1	0	1
320			min	-.029	2	-.002	1	0	1	0	2	0	1	0	1
321	M33	1	max	.029	2	.004	1	0	1	0	2	0	1	0	1
322			min	.029	1	.002	2	0	1	0	1	0	1	0	1
323		2	max	.028	2	.002	1	0	1	0	2	.002	1	-.001	2
324			min	.026	1	.001	2	0	1	0	1	.001	2	-.002	1
325		3	max	.026	2	0	1	0	1	0	2	.003	1	-.001	2
326			min	.023	1	0	1	0	1	0	1	.001	2	-.003	1
327		4	max	.025	2	-.001	2	0	1	0	2	.002	1	-.001	2
328			min	.02	1	-.002	1	0	1	0	1	.001	2	-.002	1
329		5	max	.023	2	-.002	2	0	1	0	2	0	1	0	1
330			min	.017	1	-.004	1	0	1	0	1	0	1	0	1
331	M34	1	max	-.01	1	.004	1	0	1	0	1	0	1	0	1
332			min	-.016	2	.002	2	0	1	0	2	0	1	0	1
333		2	max	-.013	1	.002	1	0	1	0	1	.002	1	-.001	2
334			min	-.017	2	.001	2	0	1	0	2	.001	2	-.002	1
335		3	max	-.016	1	0	1	0	1	0	1	.003	1	-.001	2
336			min	-.019	2	0	1	0	1	0	2	.001	2	-.003	1
337		4	max	-.019	1	-.001	2	0	1	0	1	.002	1	-.001	2
338			min	-.02	2	-.002	1	0	1	0	2	.001	2	-.002	1
339		5	max	-.022	2	-.002	2	0	1	0	1	0	1	0	1
340			min	-.022	1	-.004	1	0	1	0	2	0	1	0	1
341	M35	1	max	-.056	1	0	1	0	2	0	1	0	1	0	1
342			min	-.066	2	0	2	0	1	0	2	0	1	0	1
343		2	max	-.056	1	-.001	2	0	2	0	1	0	1	0	2
344			min	-.066	2	-.001	1	0	1	0	2	0	2	0	1
345		3	max	.19	2	.003	1	0	2	0	1	0	2	.001	1
346			min	.168	1	.002	2	0	1	0	2	-.001	1	0	2
347		4	max	.19	2	.001	1	0	2	0	1	0	1	0	2
348			min	.168	1	.001	2	0	1	0	2	0	2	0	1
349		5	max	.19	2	0	2	0	2	0	1	0	1	0	1
350			min	.168	1	0	1	0	1	0	2	0	1	0	1
351	M36	1	max	-.052	1	0	1	0	1	0	2	0	1	0	1
352			min	-.061	2	0	2	0	2	0	1	0	1	0	1
353		2	max	-.052	1	-.001	2	0	1	0	2	0	1	0	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
354			min	-.061	2	-.001	1	0	2	0	1	0	2	0	1
355		3	max	.194	2	.003	1	0	1	0	1	0	2	.001	1
356			min	.172	1	.002	2	0	2	0	2	-.001	1	0	2
357		4	max	.194	2	.001	1	0	1	0	1	0	1	0	2
358			min	.172	1	.001	2	0	2	0	2	0	2	0	1
359		5	max	.194	2	0	2	0	1	0	1	0	1	0	1
360			min	.172	1	0	1	0	2	0	2	0	1	0	1
361	M37	1	max	.013	1	.004	1	0	1	0	1	0	1	0	1
362			min	.012	2	.002	2	0	1	0	2	0	1	0	1
363		2	max	.012	2	.002	1	0	1	0	1	.002	1	0	2
364			min	.011	1	.001	2	0	1	0	2	0	2	-.002	1
365		3	max	.011	2	0	1	0	1	0	1	.002	1	-.001	2
366			min	.01	1	0	1	0	1	0	2	.001	2	-.002	1
367		4	max	.01	2	-.001	2	0	1	0	1	.002	1	0	2
368			min	.008	1	-.002	1	0	1	0	2	0	2	-.002	1
369		5	max	.009	2	-.002	2	0	1	0	1	0	1	0	1
370			min	.006	1	-.004	1	0	1	0	2	0	1	0	1
371	M38	1	max	-.006	1	.004	1	0	1	0	2	0	1	0	1
372			min	-.009	2	.002	2	0	1	0	1	0	1	0	1
373		2	max	-.008	1	.002	1	0	1	0	2	.002	1	0	2
374			min	-.009	2	.001	2	0	1	0	1	0	2	-.002	1
375		3	max	-.009	1	0	1	0	1	0	2	.002	1	-.001	2
376			min	-.01	2	0	1	0	1	0	1	.001	2	-.002	1
377		4	max	-.011	2	-.001	2	0	1	0	2	.002	1	0	2
378			min	-.011	1	-.002	1	0	1	0	1	0	2	-.002	1
379		5	max	-.012	2	-.002	2	0	1	0	2	0	1	0	1
380			min	-.013	1	-.004	1	0	1	0	1	0	1	0	1
381	M39	1	max	.272	2	.004	1	0	1	0	2	0	1	0	1
382			min	.235	1	.002	2	0	1	0	1	0	1	0	1
383		2	max	.271	2	.002	1	0	1	0	2	.002	1	0	2
384			min	.233	1	.001	2	0	1	0	1	0	2	-.002	1
385		3	max	.27	2	0	1	0	1	0	2	.002	1	-.001	2
386			min	.231	1	0	1	0	1	0	1	.001	2	-.002	1
387		4	max	.27	2	-.001	2	0	1	0	2	.002	1	0	2
388			min	.23	1	-.002	1	0	1	0	1	0	2	-.002	1
389		5	max	.269	2	-.002	2	0	1	0	2	0	1	0	1
390			min	.228	1	-.004	1	0	1	0	1	0	1	0	1
391	M40	1	max	-.178	1	.004	1	0	1	0	1	0	1	0	1
392			min	-.203	2	.002	2	0	1	0	2	0	1	0	1
393		2	max	-.18	1	.002	1	0	1	0	1	.002	1	0	2
394			min	-.203	2	.001	2	0	1	0	2	0	2	-.002	1
395		3	max	-.181	1	0	1	0	1	0	1	.002	1	-.001	2
396			min	-.204	2	0	1	0	1	0	2	.001	2	-.002	1
397		4	max	-.183	1	-.001	2	0	1	0	1	.002	1	0	2
398			min	-.205	2	-.002	1	0	1	0	2	0	2	-.002	1
399		5	max	-.185	1	-.002	2	0	1	0	1	0	1	0	1
400			min	-.206	2	-.004	1	0	1	0	2	0	1	0	1
401	M41	1	max	.012	1	.004	1	.02	2	0	1	0	1	0	1
402			min	.012	2	.002	2	.016	1	0	2	0	1	0	1
403		2	max	.011	2	.002	1	.01	2	0	1	.009	2	.007	2
404			min	.01	1	.001	2	.008	1	0	2	.008	1	.004	1
405		3	max	.01	2	0	1	0	1	0	1	.011	2	.009	2
406			min	.009	1	0	1	0	1	0	2	.01	1	.006	1
407		4	max	.01	2	-.001	2	-.008	1	0	1	.009	2	.007	2
408			min	.007	1	-.002	1	-.01	2	0	2	.008	1	.004	1
409		5	max	.009	2	-.002	2	-.016	1	0	1	0	1	0	1
410			min	.005	1	-.004	1	-.02	2	0	2	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
411	M42	1	max	-.011	1	.004	1	-.016	1	0	2	0	1	0	1
412			min	-.015	2	.002	2	-.02	2	0	1	0	1	0	1
413		2	max	-.012	1	.002	1	-.008	1	0	2	-.004	1	-.008	1
414			min	-.015	2	.001	2	-.01	2	0	1	-.007	2	-.009	2
415		3	max	-.014	1	0	1	0	1	0	2	-.006	1	-.01	1
416			min	-.016	2	0	1	0	1	0	1	-.009	2	-.011	2
417		4	max	-.016	1	-.001	2	.01	2	0	2	-.004	1	-.008	1
418			min	-.017	2	-.002	1	.008	1	0	1	-.007	2	-.009	2
419		5	max	-.017	1	-.002	2	.02	2	0	2	0	1	0	1
420			min	-.018	2	-.004	1	.016	1	0	1	0	1	0	1
421	M43	1	max	.27	2	.004	1	0	1	0	2	0	1	0	1
422			min	.233	1	.002	2	0	1	0	1	0	1	0	1
423		2	max	.269	2	.002	1	0	1	0	2	.002	1	0	2
424			min	.231	1	.001	2	0	1	0	1	0	2	-.002	1
425		3	max	.268	2	0	1	0	1	0	2	.002	1	-.001	2
426			min	.23	1	0	1	0	1	0	1	.001	2	-.002	1
427		4	max	.267	2	-.001	2	0	1	0	2	.002	1	0	2
428			min	.228	1	-.002	1	0	1	0	1	0	2	-.002	1
429		5	max	.267	2	-.002	2	0	1	0	2	0	1	0	1
430			min	.226	1	-.004	1	0	1	0	1	0	1	0	1
431	M44	1	max	-.18	1	.004	1	0	1	0	1	0	1	0	1
432			min	-.204	2	.002	2	0	1	0	2	0	1	0	1
433		2	max	-.181	1	.002	1	0	1	0	1	.002	1	0	2
434			min	-.205	2	.001	2	0	1	0	2	0	2	-.002	1
435		3	max	-.183	1	0	1	0	1	0	1	.002	1	-.001	2
436			min	-.206	2	0	1	0	1	0	2	.001	2	-.002	1
437		4	max	-.185	1	-.001	2	0	1	0	1	.002	1	0	2
438			min	-.207	2	-.002	1	0	1	0	2	0	2	-.002	1
439		5	max	-.186	1	-.002	2	0	1	0	1	0	1	0	1
440			min	-.207	2	-.004	1	0	1	0	2	0	1	0	1
441	M45	1	max	-1.78	1	.004	1	0	2	0	1	0	1	0	1
442			min	-2.054	2	.003	2	0	1	0	2	0	1	0	1
443		2	max	-1.78	1	.002	2	0	2	0	1	.001	1	0	2
444			min	-2.054	2	.002	1	0	1	0	2	0	2	-.001	1
445		3	max	2.105	2	0	1	0	2	0	2	.001	2	-.001	1
446			min	1.828	1	0	2	0	1	0	1	.001	1	-.001	2
447		4	max	2.105	2	-.002	1	0	2	0	2	.001	1	0	2
448			min	1.828	1	-.002	2	0	1	0	1	0	2	-.001	1
449		5	max	2.105	2	-.003	2	0	2	0	2	0	1	0	1
450			min	1.828	1	-.004	1	0	1	0	1	0	1	0	1
451	M46	1	max	2.227	2	.003	1	0	2	0	2	0	1	0	1
452			min	1.956	1	.002	2	0	1	0	1	0	1	0	1
453		2	max	2.227	2	0	2	0	2	0	2	0	1	0	2
454			min	1.949	1	0	1	0	1	0	1	0	2	0	1
455		3	max	2.227	2	0	2	0	2	0	2	0	2	0	1
456			min	1.943	1	-.002	1	0	1	0	1	0	1	0	2
457		4	max	-1.708	1	0	1	0	2	0	2	0	1	0	2
458			min	-1.936	2	0	2	0	1	0	1	0	2	0	1
459		5	max	-1.714	1	-.002	2	0	2	0	2	0	1	0	1
460			min	-1.936	2	-.003	1	0	1	0	1	0	1	0	1
461	M47	1	max	1.928	2	0	1	0	1	0	1	0	1	0	1
462			min	1.648	1	-.001	2	0	2	0	2	0	1	0	1
463		2	max	1.928	2	-.003	2	0	1	0	1	0	1	0	2
464			min	1.648	1	-.003	1	0	2	0	2	0	2	0	1
465		3	max	-1.507	1	.005	1	0	1	0	2	-.002	2	.002	1
466			min	-1.706	2	.004	2	0	2	0	1	-.002	1	.002	2
467		4	max	-1.507	1	.003	1	0	1	0	2	0	1	0	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
468			min	-1.706	2	.003	2	0	2	0	1	0	2	0	1
469		5	max	-1.507	1	.001	2	0	1	0	2	0	1	0	1
470			min	-1.706	2	0	1	0	2	0	1	0	1	0	1
471	M48	1	max	1.818	2	0	1	0	2	0	1	0	1	0	1
472			min	1.574	1	0	2	0	1	0	2	0	1	0	1
473		2	max	1.818	2	0	2	0	2	0	1	0	1	0	2
474			min	1.574	1	-.001	1	0	1	0	2	0	2	0	1
475		3	max	-1.608	1	.003	1	0	2	0	2	0	2	.001	1
476			min	-1.816	2	.002	2	0	1	0	1	-.001	1	0	2
477		4	max	-1.608	1	.001	1	0	2	0	2	0	1	0	2
478			min	-1.816	2	0	2	0	1	0	1	0	2	0	1
479		5	max	-1.608	1	0	2	0	2	0	2	0	1	0	1
480			min	-1.816	2	0	1	0	1	0	1	0	1	0	1
481	M49	1	max	.626	2	.004	1	.016	2	0	2	0	1	0	1
482			min	.518	1	.002	2	.013	1	0	1	0	1	0	1
483		2	max	.626	2	.002	1	.008	2	0	2	.006	2	.004	2
484			min	.518	1	.001	2	.006	1	0	1	.005	1	.003	1
485		3	max	.626	2	0	1	0	1	0	2	.007	2	.006	2
486			min	.518	1	0	1	0	1	0	1	.007	1	.003	1
487		4	max	.626	2	-.001	2	-.006	1	0	2	.006	2	.004	2
488			min	.518	1	-.002	1	-.008	2	0	1	.005	1	.003	1
489		5	max	.626	2	-.002	2	-.013	1	0	2	0	1	0	1
490			min	.518	1	-.004	1	-.016	2	0	1	0	1	0	1
491	M50	1	max	-.655	1	.004	1	0	1	0	2	0	1	0	1
492			min	-.712	2	.002	2	0	1	0	1	0	1	0	1
493		2	max	-.655	1	.002	1	0	1	0	2	.001	1	0	2
494			min	-.712	2	.001	2	0	1	0	1	0	2	-.001	1
495		3	max	-.655	1	0	1	0	1	0	2	.002	1	0	2
496			min	-.712	2	0	1	0	1	0	1	0	2	-.002	1
497		4	max	-.655	1	-.001	2	0	1	0	2	.001	1	0	2
498			min	-.712	2	-.002	1	0	1	0	1	0	2	-.001	1
499		5	max	-.655	1	-.002	2	0	1	0	2	0	1	0	1
500			min	-.712	2	-.004	1	0	1	0	1	0	1	0	1
501	M51	1	max	1.012	2	.004	1	.016	2	0	1	0	1	0	1
502			min	.839	1	.002	2	.013	1	0	2	0	1	0	1
503		2	max	1.012	2	.002	1	.008	2	0	1	.006	2	.004	2
504			min	.839	1	.001	2	.006	1	0	2	.005	1	.003	1
505		3	max	1.012	2	0	1	0	1	0	1	.007	2	.006	2
506			min	.839	1	0	1	0	1	0	2	.007	1	.003	1
507		4	max	1.012	2	-.001	2	-.006	1	0	1	.006	2	.004	2
508			min	.839	1	-.002	1	-.008	2	0	2	.005	1	.003	1
509		5	max	1.012	2	-.002	2	-.013	1	0	1	0	1	0	1
510			min	.839	1	-.004	1	-.016	2	0	2	0	1	0	1
511	M52	1	max	-1.057	1	.004	1	0	1	0	2	0	1	0	1
512			min	-1.147	2	.002	2	0	1	0	1	0	1	0	1
513		2	max	-1.057	1	.002	1	0	1	0	2	.001	1	0	2
514			min	-1.147	2	.001	2	0	1	0	1	0	2	-.001	1
515		3	max	-1.057	1	0	1	0	1	0	2	.002	1	0	2
516			min	-1.147	2	0	1	0	1	0	1	0	2	-.002	1
517		4	max	-1.057	1	-.001	2	0	1	0	2	.001	1	0	2
518			min	-1.147	2	-.002	1	0	1	0	1	0	2	-.001	1
519		5	max	-1.057	1	-.002	2	0	1	0	2	0	1	0	1
520			min	-1.147	2	-.004	1	0	1	0	1	0	1	0	1
521	M53	1	max	-1.015	1	.004	1	.027	2	0	2	0	1	0	1
522			min	-1.23	2	.002	2	.021	1	0	1	0	1	0	1
523		2	max	-1.012	1	.002	1	.013	2	0	2	.015	2	.012	2
524			min	-1.229	2	.001	2	.011	1	0	1	.013	1	.008	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
525		3	max	-1.01	1	0	1	0	1	0	2	.019	2	.017	2
526			min	-1.228	2	0	1	0	1	0	1	.017	1	.011	1
527		4	max	-1.007	1	-.001	2	-.011	1	0	2	.015	2	.012	2
528			min	-1.226	2	-.002	1	-.013	2	0	1	.013	1	.008	1
529		5	max	-1.004	1	-.002	2	-.021	1	0	2	0	1	0	1
530			min	-1.225	2	-.004	1	-.027	2	0	1	0	1	0	1
531	M54	1	max	-1.303	1	.004	1	.027	2	0	1	0	1	0	1
532			min	-1.57	2	.002	2	0	1	0	2	0	1	0	1
533		2	max	-1.306	1	.002	1	.013	2	0	1	.015	2	.012	2
534			min	-1.571	2	.001	2	0	1	0	2	.002	1	-.002	1
535		3	max	-1.309	1	0	1	0	1	0	1	.019	2	.017	2
536			min	-1.573	2	0	1	0	1	0	2	.003	1	-.003	1
537		4	max	-1.312	1	-.001	2	0	1	0	1	.015	2	.012	2
538			min	-1.574	2	-.002	1	-.013	2	0	2	.002	1	-.002	1
539		5	max	-1.315	1	-.002	2	0	1	0	1	0	1	0	1
540			min	-1.575	2	-.004	1	-.027	2	0	2	0	1	0	1
541	M55	1	max	.062	2	.004	1	.016	2	0	2	0	1	0	1
542			min	.051	1	.002	2	.013	1	0	1	0	1	0	1
543		2	max	.062	2	.002	1	.008	2	0	2	.006	2	.004	2
544			min	.051	1	.001	2	.006	1	0	1	.005	1	.003	1
545		3	max	.062	2	0	1	0	1	0	2	.007	2	.006	2
546			min	.051	1	0	1	0	1	0	1	.007	1	.003	1
547		4	max	.062	2	-.001	2	-.006	1	0	2	.006	2	.004	2
548			min	.051	1	-.002	1	-.008	2	0	1	.005	1	.003	1
549		5	max	.062	2	-.002	2	-.013	1	0	2	0	1	0	1
550			min	.051	1	-.004	1	-.016	2	0	1	0	1	0	1
551	M56	1	max	1.753	2	.004	1	0	1	0	2	0	1	0	1
552			min	1.604	1	.002	2	0	1	0	1	0	1	0	1
553		2	max	1.755	2	.002	1	0	1	0	2	.002	1	-.001	2
554			min	1.607	1	.001	2	0	1	0	1	.001	2	-.002	1
555		3	max	1.756	2	0	1	0	1	0	2	.003	1	-.001	2
556			min	1.61	1	0	1	0	1	0	1	.001	2	-.003	1
557		4	max	1.758	2	-.001	2	0	1	0	2	.002	1	-.001	2
558			min	1.613	1	-.002	1	0	1	0	1	.001	2	-.002	1
559		5	max	1.759	2	-.002	2	0	1	0	2	0	1	0	1
560			min	1.616	1	-.004	1	0	1	0	1	0	1	0	1
561	M57	1	max	1.416	2	.004	1	0	1	0	1	0	1	0	1
562			min	1.316	1	.002	2	0	1	0	2	0	1	0	1
563		2	max	1.415	2	.002	1	0	1	0	1	.002	1	-.001	2
564			min	1.314	1	.001	2	0	1	0	2	.001	2	-.002	1
565		3	max	1.413	2	0	1	0	1	0	1	.003	1	-.001	2
566			min	1.311	1	0	1	0	1	0	2	.001	2	-.003	1
567		4	max	1.412	2	-.001	2	0	1	0	1	.002	1	-.001	2
568			min	1.308	1	-.002	1	0	1	0	2	.001	2	-.002	1
569		5	max	1.411	2	-.002	2	0	1	0	1	0	1	0	1
570			min	1.305	1	-.004	1	0	1	0	2	0	1	0	1
571	M58	1	max	-.066	1	.004	1	0	1	0	2	0	1	0	1
572			min	-.071	2	.002	2	0	1	0	1	0	1	0	1
573		2	max	-.066	1	.002	1	0	1	0	2	.001	1	0	2
574			min	-.071	2	.001	2	0	1	0	1	0	2	-.001	1
575		3	max	-.066	1	0	1	0	1	0	2	.002	1	0	2
576			min	-.071	2	0	1	0	1	0	1	0	2	-.002	1
577		4	max	-.066	1	-.001	2	0	1	0	2	.001	1	0	2
578			min	-.071	2	-.002	1	0	1	0	1	0	2	-.001	1
579		5	max	-.066	1	-.002	2	0	1	0	2	0	1	0	1
580			min	-.071	2	-.004	1	0	1	0	1	0	1	0	1
581	M59	1	max	-1.493	1	.004	1	0	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
582			min	-1.721	2	.002	2	0	1	0	2	0	1	0	1
583		2	max	-1.496	1	.002	1	0	1	0	1	.002	1	0	2
584			min	-1.722	2	.001	2	0	1	0	2	0	2	-.002	1
585		3	max	-1.498	1	0	1	0	1	0	1	.003	1	-.001	2
586			min	-1.723	2	0	1	0	1	0	2	.001	2	-.003	1
587		4	max	-1.501	1	-.001	2	0	1	0	1	.002	1	0	2
588			min	-1.724	2	-.002	1	0	1	0	2	0	2	-.002	1
589		5	max	-1.503	1	-.002	2	0	1	0	1	0	1	0	1
590			min	-1.726	2	-.004	1	0	1	0	2	0	1	0	1
591	M60	1	max	1.779	2	.004	1	0	1	0	2	0	1	0	1
592			min	1.574	1	.002	2	0	1	0	1	0	1	0	1
593		2	max	1.78	2	.002	1	0	1	0	2	.002	1	0	2
594			min	1.576	1	.001	2	0	1	0	1	0	2	-.002	1
595		3	max	1.782	2	0	1	0	1	0	2	.003	1	-.001	2
596			min	1.579	1	0	1	0	1	0	1	.001	2	-.003	1
597		4	max	1.783	2	-.001	2	0	1	0	2	.002	1	0	2
598			min	1.581	1	-.002	1	0	1	0	1	0	2	-.002	1
599		5	max	1.784	2	-.002	2	0	1	0	2	0	1	0	1
600			min	1.584	1	-.004	1	0	1	0	1	0	1	0	1
601	M61	1	max	-.259	1	.004	1	-.019	1	0	1	0	1	0	1
602			min	-.308	2	.002	2	-.025	2	0	2	0	1	0	1
603		2	max	-.261	1	.002	1	-.01	1	0	1	-.007	1	-.011	1
604			min	-.309	2	.001	2	-.012	2	0	2	-.011	2	-.013	2
605		3	max	-.264	1	0	1	0	1	0	1	-.009	1	-.015	1
606			min	-.311	2	0	1	0	1	0	2	-.014	2	-.017	2
607		4	max	-.266	1	-.001	2	.012	2	0	1	-.007	1	-.011	1
608			min	-.312	2	-.002	1	.01	1	0	2	-.011	2	-.013	2
609		5	max	-.269	1	-.002	2	.025	2	0	1	0	1	0	1
610			min	-.313	2	-.004	1	.019	1	0	2	0	1	0	1
611	M62	1	max	-.095	1	.004	1	.025	2	0	2	0	1	0	1
612			min	-.127	2	.002	2	.019	1	0	1	0	1	0	1
613		2	max	-.098	1	.002	1	.012	2	0	2	.013	2	.011	2
614			min	-.128	2	.001	2	.01	1	0	1	.011	1	.007	1
615		3	max	-.1	1	0	1	0	1	0	2	.017	2	.014	2
616			min	-.129	2	0	1	0	1	0	1	.015	1	.009	1
617		4	max	-.103	1	-.001	2	-.01	1	0	2	.013	2	.011	2
618			min	-.131	2	-.002	1	-.012	2	0	1	.011	1	.007	1
619		5	max	-.105	1	-.002	2	-.019	1	0	2	0	1	0	1
620			min	-.132	2	-.004	1	-.025	2	0	1	0	1	0	1
621	M63	1	max	-1.398	1	.004	1	0	1	0	1	0	1	0	1
622			min	-1.618	2	.002	2	0	1	0	2	0	1	0	1
623		2	max	-1.401	1	.002	1	0	1	0	1	.002	1	0	2
624			min	-1.619	2	.001	2	0	1	0	2	0	2	-.002	1
625		3	max	-1.403	1	0	1	0	1	0	1	.003	1	-.001	2
626			min	-1.62	2	0	1	0	1	0	2	.001	2	-.003	1
627		4	max	-1.406	1	-.001	2	0	1	0	1	.002	1	0	2
628			min	-1.621	2	-.002	1	0	1	0	2	0	2	-.002	1
629		5	max	-1.408	1	-.002	2	0	1	0	1	0	1	0	1
630			min	-1.623	2	-.004	1	0	1	0	2	0	1	0	1
631	M64	1	max	1.875	2	.004	1	0	1	0	2	0	1	0	1
632			min	1.655	1	.002	2	0	1	0	1	0	1	0	1
633		2	max	1.876	2	.002	1	0	1	0	2	.002	1	0	2
634			min	1.657	1	.001	2	0	1	0	1	0	2	-.002	1
635		3	max	1.877	2	0	1	0	1	0	2	.003	1	-.001	2
636			min	1.66	1	0	1	0	1	0	1	.001	2	-.003	1
637		4	max	1.879	2	-.001	2	0	1	0	2	.002	1	0	2
638			min	1.662	1	-.002	1	0	1	0	1	0	2	-.002	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
639		5	max	1.88	2	-.002	2	0	1	0	2	0	1	0	1
640			min	1.665	1	-.004	1	0	1	0	1	0	1	0	1
641	M65	1	max	.34	2	.004	1	0	1	0	2	0	1	0	1
642			min	.31	1	.002	2	0	1	0	1	0	1	0	1
643		2	max	.339	2	.002	1	0	1	0	2	.002	1	0	2
644			min	.307	1	.001	2	0	1	0	1	0	2	-.002	1
645		3	max	.338	2	0	1	0	1	0	2	.003	1	-.001	2
646			min	.305	1	0	1	0	1	0	1	.001	2	-.003	1
647		4	max	.336	2	-.001	2	0	1	0	2	.002	1	0	2
648			min	.302	1	-.002	1	0	1	0	1	0	2	-.002	1
649		5	max	.335	2	-.002	2	0	1	0	2	0	1	0	1
650			min	.3	1	-.004	1	0	1	0	1	0	1	0	1
651	M66	1	max	.165	2	.004	1	0	1	0	1	0	1	0	1
652			min	.163	1	.002	2	0	1	0	2	0	1	0	1
653		2	max	.164	2	.002	1	0	1	0	1	.002	1	0	2
654			min	.161	1	.001	2	0	1	0	2	0	2	-.002	1
655		3	max	.163	2	0	1	0	1	0	1	.003	1	-.001	2
656			min	.158	1	0	1	0	1	0	2	.001	2	-.003	1
657		4	max	.162	2	-.001	2	0	1	0	1	.002	1	0	2
658			min	.156	1	-.002	1	0	1	0	2	0	2	-.002	1
659		5	max	.16	2	-.002	2	0	1	0	1	0	1	0	1
660			min	.153	1	-.004	1	0	1	0	2	0	1	0	1
661	M67	1	max	.109	2	.004	1	.025	2	0	2	0	1	0	1
662			min	.091	1	.002	2	.019	1	0	1	0	1	0	1
663		2	max	.107	2	.002	1	.012	2	0	2	.013	2	.011	2
664			min	.088	1	.001	2	.01	1	0	1	.011	1	.007	1
665		3	max	.106	2	0	1	0	1	0	2	.017	2	.014	2
666			min	.086	1	0	1	0	1	0	1	.015	1	.009	1
667		4	max	.105	2	-.001	2	-.01	1	0	2	.013	2	.011	2
668			min	.083	1	-.002	1	-.012	2	0	1	.011	1	.007	1
669		5	max	.104	2	-.002	2	-.019	1	0	2	0	1	0	1
670			min	.081	1	-.004	1	-.025	2	0	1	0	1	0	1
671	M68	1	max	.155	2	.004	1	.025	2	0	1	0	1	0	1
672			min	.127	1	.002	2	.019	1	0	2	0	1	0	1
673		2	max	.156	2	.002	1	.012	2	0	1	.013	2	.011	2
674			min	.129	1	.001	2	.01	1	0	2	.011	1	.007	1
675		3	max	.157	2	0	1	0	1	0	1	.017	2	.014	2
676			min	.132	1	0	1	0	1	0	2	.015	1	.009	1
677		4	max	.159	2	-.001	2	-.01	1	0	1	.013	2	.011	2
678			min	.134	1	-.002	1	-.012	2	0	2	.011	1	.007	1
679		5	max	.16	2	-.002	2	-.019	1	0	1	0	1	0	1
680			min	.137	1	-.004	1	-.025	2	0	2	0	1	0	1
681	M69	1	max	-1.318	1	.004	1	0	1	0	2	0	1	0	1
682			min	-1.495	2	.002	2	0	1	0	1	0	1	0	1
683		2	max	-1.321	1	.002	1	0	1	0	2	.002	1	0	2
684			min	-1.496	2	.001	2	0	1	0	1	0	2	-.002	1
685		3	max	-1.323	1	0	1	0	1	0	2	.003	1	-.001	2
686			min	-1.498	2	0	1	0	1	0	1	.001	2	-.003	1
687		4	max	-1.326	1	-.001	2	0	1	0	2	.002	1	0	2
688			min	-1.499	2	-.002	1	0	1	0	1	0	2	-.002	1
689		5	max	-1.328	1	-.002	2	0	1	0	2	0	1	0	1
690			min	-1.5	2	-.004	1	0	1	0	1	0	1	0	1
691	M70	1	max	1.634	2	.004	1	0	1	0	1	0	1	0	1
692			min	1.423	1	.002	2	0	1	0	2	0	1	0	1
693		2	max	1.636	2	.002	1	0	1	0	1	.002	1	0	2
694			min	1.425	1	.001	2	0	1	0	2	0	2	-.002	1
695		3	max	1.637	2	0	1	0	1	0	1	.003	1	-.001	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
696			min	1.428	1	0	1	0	1	0	2	.001	2	-.003	1
697		4	max	1.638	2	-.001	2	0	1	0	1	.002	1	0	2
698			min	1.43	1	-.002	1	0	1	0	2	0	2	-.002	1
699		5	max	1.639	2	-.002	2	0	1	0	1	0	1	0	1
700			min	1.433	1	-.004	1	0	1	0	2	0	1	0	1
701	M71	1	max	-1.335	1	.004	1	0	1	0	2	0	1	0	1
702			min	-1.514	2	.002	2	0	1	0	1	0	1	0	1
703		2	max	-1.338	1	.002	1	0	1	0	2	.002	1	0	2
704			min	-1.515	2	.001	2	0	1	0	1	0	2	-.002	1
705		3	max	-1.341	1	0	1	0	1	0	2	.003	1	-.001	2
706			min	-1.516	2	0	1	0	1	0	1	.001	2	-.003	1
707		4	max	-1.343	1	-.001	2	0	1	0	2	.002	1	0	2
708			min	-1.517	2	-.002	1	0	1	0	1	0	2	-.002	1
709		5	max	-1.346	1	-.002	2	0	1	0	2	0	1	0	1
710			min	-1.519	2	-.004	1	0	1	0	1	0	1	0	1
711	M72	1	max	1.622	2	.004	1	0	1	0	1	0	1	0	1
712			min	1.412	1	.002	2	0	1	0	2	0	1	0	1
713		2	max	1.624	2	.002	1	0	1	0	1	.002	1	0	2
714			min	1.415	1	.001	2	0	1	0	2	0	2	-.002	1
715		3	max	1.625	2	0	1	0	1	0	1	.003	1	-.001	2
716			min	1.417	1	0	1	0	1	0	2	.001	2	-.003	1
717		4	max	1.626	2	-.001	2	0	1	0	1	.002	1	0	2
718			min	1.42	1	-.002	1	0	1	0	2	0	2	-.002	1
719		5	max	1.627	2	-.002	2	0	1	0	1	0	1	0	1
720			min	1.423	1	-.004	1	0	1	0	2	0	1	0	1
721	M73	1	max	-.152	1	.004	1	0	1	0	2	0	1	0	1
722			min	-.17	2	.002	2	0	1	0	1	0	1	0	1
723		2	max	-.155	1	.002	1	0	1	0	2	.002	1	0	2
724			min	-.171	2	.001	2	0	1	0	1	0	2	-.002	1
725		3	max	-.157	1	0	1	0	1	0	2	.003	1	-.001	2
726			min	-.172	2	0	1	0	1	0	1	.001	2	-.003	1
727		4	max	-.16	1	-.001	2	0	1	0	2	.002	1	0	2
728			min	-.173	2	-.002	1	0	1	0	1	0	2	-.002	1
729		5	max	-.162	1	-.002	2	0	1	0	2	0	1	0	1
730			min	-.174	2	-.004	1	0	1	0	1	0	1	0	1
731	M74	1	max	-.124	1	.004	1	0	1	0	1	0	1	0	1
732			min	-.129	2	.002	2	0	1	0	2	0	1	0	1
733		2	max	-.121	1	.002	1	0	1	0	1	.002	1	0	2
734			min	-.128	2	.001	2	0	1	0	2	0	2	-.002	1
735		3	max	-.119	1	0	1	0	1	0	1	.003	1	-.001	2
736			min	-.126	2	0	1	0	1	0	2	.001	2	-.003	1
737		4	max	-.116	1	-.001	2	0	1	0	1	.002	1	0	2
738			min	-.125	2	-.002	1	0	1	0	2	0	2	-.002	1
739		5	max	-.114	1	-.002	2	0	1	0	1	0	1	0	1
740			min	-.124	2	-.004	1	0	1	0	2	0	1	0	1
741	M75	1	max	-1.212	1	.004	1	0	1	0	1	0	1	0	1
742			min	-1.388	2	.002	2	0	1	0	2	0	1	0	1
743		2	max	-1.215	1	.002	1	0	1	0	1	.002	1	0	2
744			min	-1.39	2	.001	2	0	1	0	2	0	2	-.002	1
745		3	max	-1.217	1	0	1	0	1	0	1	.003	1	-.001	2
746			min	-1.391	2	0	1	0	1	0	2	.001	2	-.003	1
747		4	max	-1.22	1	-.001	2	0	1	0	1	.002	1	0	2
748			min	-1.392	2	-.002	1	0	1	0	2	0	2	-.002	1
749		5	max	-1.223	1	-.002	2	0	1	0	1	0	1	0	1
750			min	-1.393	2	-.004	1	0	1	0	2	0	1	0	1
751	M76	1	max	1.501	2	.004	1	0	1	0	2	0	1	0	1
752			min	1.317	1	.002	2	0	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
753		2	max	1.502	2	.002	1	0	1	0	2	.002	1	0	2
754			min	1.32	1	.001	2	0	1	0	1	0	2	-.002	1
755		3	max	1.503	2	0	1	0	1	0	2	.003	1	-.001	2
756			min	1.322	1	0	1	0	1	0	1	.001	2	-.003	1
757		4	max	1.505	2	-.001	2	0	1	0	2	.002	1	0	2
758			min	1.325	1	-.002	1	0	1	0	1	0	2	-.002	1
759		5	max	1.506	2	-.002	2	0	1	0	2	0	1	0	1
760			min	1.327	1	-.004	1	0	1	0	1	0	1	0	1
761	M77	1	max	.062	2	.004	1	0	1	0	2	0	1	0	1
762			min	.059	1	.002	2	0	1	0	1	0	1	0	1
763		2	max	.061	2	.002	1	0	1	0	2	.002	1	0	2
764			min	.056	1	.001	2	0	1	0	1	0	2	-.002	1
765		3	max	.06	2	0	1	0	1	0	2	.003	1	-.001	2
766			min	.053	1	0	1	0	1	0	1	.001	2	-.003	1
767		4	max	.059	2	-.001	2	0	1	0	2	.002	1	0	2
768			min	.051	1	-.002	1	0	1	0	1	0	2	-.002	1
769		5	max	.057	2	-.002	2	0	1	0	2	0	1	0	1
770			min	.048	1	-.004	1	0	1	0	1	0	1	0	1
771	M78	1	max	.067	2	.004	1	0	1	0	1	0	1	0	1
772			min	.061	1	.002	2	0	1	0	2	0	1	0	1
773		2	max	.068	2	.002	1	0	1	0	1	.002	1	0	2
774			min	.063	1	.001	2	0	1	0	2	0	2	-.002	1
775		3	max	.069	2	0	1	0	1	0	1	.003	1	-.001	2
776			min	.066	1	0	1	0	1	0	2	.001	2	-.003	1
777		4	max	.071	2	-.001	2	0	1	0	1	.002	1	0	2
778			min	.068	1	-.002	1	0	1	0	2	0	2	-.002	1
779		5	max	.072	2	-.002	2	0	1	0	1	0	1	0	1
780			min	.071	1	-.004	1	0	1	0	2	0	1	0	1
781	M79	1	max	1.54	2	.004	1	0	1	0	2	0	1	0	1
782			min	1.355	1	.002	2	0	1	0	1	0	1	0	1
783		2	max	1.541	2	.002	1	0	1	0	2	.002	1	0	2
784			min	1.357	1	.001	2	0	1	0	1	0	2	-.002	1
785		3	max	1.542	2	0	1	0	1	0	2	.003	1	-.001	2
786			min	1.36	1	0	1	0	1	0	1	.001	2	-.003	1
787		4	max	1.544	2	-.001	2	0	1	0	2	.002	1	0	2
788			min	1.362	1	-.002	1	0	1	0	1	0	2	-.002	1
789		5	max	1.545	2	-.002	2	0	1	0	2	0	1	0	1
790			min	1.365	1	-.004	1	0	1	0	1	0	1	0	1
791	M80	1	max	-1.185	1	.004	1	0	1	0	2	0	1	0	1
792			min	-1.353	2	.002	2	0	1	0	1	0	1	0	1
793		2	max	-1.188	1	.002	1	0	1	0	2	.002	1	0	2
794			min	-1.355	2	.001	2	0	1	0	1	0	2	-.002	1
795		3	max	-1.19	1	0	1	0	1	0	2	.003	1	-.001	2
796			min	-1.356	2	0	1	0	1	0	1	.001	2	-.003	1
797		4	max	-1.193	1	-.001	2	0	1	0	2	.002	1	0	2
798			min	-1.357	2	-.002	1	0	1	0	1	0	2	-.002	1
799		5	max	-1.195	1	-.002	2	0	1	0	2	0	1	0	1
800			min	-1.358	2	-.004	1	0	1	0	1	0	1	0	1
801	M81	1	max	-.044	1	.004	1	.025	2	0	2	0	1	0	1
802			min	-.058	2	.002	2	.019	1	0	1	0	1	0	1
803		2	max	-.046	1	.002	1	.012	2	0	2	.013	2	.011	2
804			min	-.06	2	.001	2	.01	1	0	1	.011	1	.007	1
805		3	max	-.049	1	0	1	0	1	0	2	.017	2	.014	2
806			min	-.061	2	0	1	0	1	0	1	.015	1	.009	1
807		4	max	-.051	1	-.001	2	-.01	1	0	2	.013	2	.011	2
808			min	-.062	2	-.002	1	-.012	2	0	1	.011	1	.007	1
809		5	max	-.054	1	-.002	2	-.019	1	0	2	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
810			min	-.063	2	-.004	1	-.025	2	0	1	0	1	0	1
811	M82	1	max	-.051	1	.004	1	.025	2	0	1	0	1	0	1
812			min	-.056	2	.002	2	.019	1	0	2	0	1	0	1
813		2	max	-.049	1	.002	1	.012	2	0	1	.013	2	.011	2
814			min	-.055	2	.001	2	.01	1	0	2	.011	1	.007	1
815		3	max	-.046	1	0	1	0	1	0	1	.017	2	.014	2
816			min	-.054	2	0	1	0	1	0	2	.015	1	.009	1
817		4	max	-.044	1	-.001	2	-.01	1	0	1	.013	2	.011	2
818			min	-.053	2	-.002	1	-.012	2	0	2	.011	1	.007	1
819		5	max	-.041	1	-.002	2	-.019	1	0	1	0	1	0	1
820			min	-.051	2	-.004	1	-.025	2	0	2	0	1	0	1
821	M83	1	max	.011	2	.004	1	.025	2	0	2	0	1	0	1
822			min	.005	1	.002	2	.019	1	0	1	0	1	0	1
823		2	max	.012	2	.002	1	.012	2	0	2	.013	2	.011	2
824			min	.007	1	.001	2	.01	1	0	1	.011	1	.007	1
825		3	max	.014	2	0	1	0	1	0	2	.017	2	.014	2
826			min	.01	1	0	1	0	1	0	1	.015	1	.009	1
827		4	max	.015	2	-.001	2	-.01	1	0	2	.013	2	.011	2
828			min	.012	1	-.002	1	-.012	2	0	1	.011	1	.007	1
829		5	max	.016	2	-.002	2	-.019	1	0	2	0	1	0	1
830			min	.015	1	-.004	1	-.025	2	0	1	0	1	0	1
831	M84	1	max	.02	1	.004	1	.025	2	0	1	0	1	0	1
832			min	.02	2	.002	2	.019	1	0	2	0	1	0	1
833		2	max	.018	2	.002	1	.012	2	0	1	.013	2	.011	2
834			min	.017	1	.001	2	.01	1	0	2	.011	1	.007	1
835		3	max	.017	2	0	1	0	1	0	1	.017	2	.014	2
836			min	.015	1	0	1	0	1	0	2	.015	1	.009	1
837		4	max	.016	2	-.001	2	-.01	1	0	1	.013	2	.011	2
838			min	.012	1	-.002	1	-.012	2	0	2	.011	1	.007	1
839		5	max	.015	2	-.002	2	-.019	1	0	1	0	1	0	1
840			min	.01	1	-.004	1	-.025	2	0	2	0	1	0	1
841	M85	1	max	-1.014	1	.004	1	0	1	0	2	0	1	0	1
842			min	-1.155	2	.002	2	0	1	0	1	0	1	0	1
843		2	max	-1.016	1	.002	1	0	1	0	2	.002	1	0	2
844			min	-1.156	2	.001	2	0	1	0	1	0	2	-.002	1
845		3	max	-1.019	1	0	1	0	1	0	2	.003	1	-.001	2
846			min	-1.157	2	0	1	0	1	0	1	.001	2	-.003	1
847		4	max	-1.021	1	-.001	2	0	1	0	2	.002	1	0	2
848			min	-1.158	2	-.002	1	0	1	0	1	0	2	-.002	1
849		5	max	-1.024	1	-.002	2	0	1	0	2	0	1	0	1
850			min	-1.159	2	-.004	1	0	1	0	1	0	1	0	1
851	M86	1	max	1.338	2	.004	1	0	1	0	1	0	1	0	1
852			min	1.171	1	.002	2	0	1	0	2	0	1	0	1
853		2	max	1.339	2	.002	1	0	1	0	1	.002	1	0	2
854			min	1.173	1	.001	2	0	1	0	2	0	2	-.002	1
855		3	max	1.34	2	0	1	0	1	0	1	.003	1	-.001	2
856			min	1.176	1	0	1	0	1	0	2	.001	2	-.003	1
857		4	max	1.342	2	-.001	2	0	1	0	1	.002	1	0	2
858			min	1.178	1	-.002	1	0	1	0	2	0	2	-.002	1
859		5	max	1.343	2	-.002	2	0	1	0	1	0	1	0	1
860			min	1.181	1	-.004	1	0	1	0	2	0	1	0	1
861	M87	1	max	-.013	1	.004	1	0	1	0	1	0	1	0	1
862			min	-.015	2	.002	2	0	1	0	2	0	1	0	1
863		2	max	-.015	1	.002	1	0	1	0	1	.002	1	0	2
864			min	-.017	2	.001	2	0	1	0	2	0	2	-.002	1
865		3	max	-.018	1	0	1	0	1	0	1	.003	1	-.001	2
866			min	-.018	2	0	1	0	1	0	2	.001	2	-.003	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
867		4	max	-.019	2	-.001	2	0	1	0	1	.002	1	0	2
868			min	-.02	1	-.002	1	0	1	0	2	0	2	-.002	1
869		5	max	-.02	2	-.002	2	0	1	0	1	0	1	0	1
870			min	-.023	1	-.004	1	0	1	0	2	0	1	0	1
871	M88	1	max	-.023	2	.004	1	0	1	0	2	0	1	0	1
872			min	-.024	1	.002	2	0	1	0	1	0	1	0	1
873		2	max	-.021	1	.002	1	0	1	0	2	.002	1	0	2
874			min	-.022	2	.001	2	0	1	0	1	0	2	-.002	1
875		3	max	-.019	1	0	1	0	1	0	2	.003	1	-.001	2
876			min	-.021	2	0	1	0	1	0	1	.001	2	-.003	1
877		4	max	-.016	1	-.001	2	0	1	0	2	.002	1	0	2
878			min	-.02	2	-.002	1	0	1	0	1	0	2	-.002	1
879		5	max	-.013	1	-.002	2	0	1	0	2	0	1	0	1
880			min	-.018	2	-.004	1	0	1	0	1	0	1	0	1
881	M89	1	max	-1.061	1	.004	1	0	1	0	2	0	1	0	1
882			min	-1.206	2	.002	2	0	1	0	1	0	1	0	1
883		2	max	-1.063	1	.002	1	0	1	0	2	.002	1	0	2
884			min	-1.207	2	.001	2	0	1	0	1	0	2	-.002	1
885		3	max	-1.066	1	0	1	0	1	0	2	.003	1	-.001	2
886			min	-1.208	2	0	1	0	1	0	1	.001	2	-.003	1
887		4	max	-1.068	1	-.001	2	0	1	0	2	.002	1	0	2
888			min	-1.209	2	-.002	1	0	1	0	1	0	2	-.002	1
889		5	max	-1.071	1	-.002	2	0	1	0	2	0	1	0	1
890			min	-1.21	2	-.004	1	0	1	0	1	0	1	0	1
891	M90	1	max	1.288	2	.004	1	0	1	0	1	0	1	0	1
892			min	1.128	1	.002	2	0	1	0	2	0	1	0	1
893		2	max	1.289	2	.002	1	0	1	0	1	.002	1	0	2
894			min	1.131	1	.001	2	0	1	0	2	0	2	-.002	1
895		3	max	1.29	2	0	1	0	1	0	1	.003	1	-.001	2
896			min	1.134	1	0	1	0	1	0	2	.001	2	-.003	1
897		4	max	1.291	2	-.001	2	0	1	0	1	.002	1	0	2
898			min	1.136	1	-.002	1	0	1	0	2	0	2	-.002	1
899		5	max	1.292	2	-.002	2	0	1	0	1	0	1	0	1
900			min	1.139	1	-.004	1	0	1	0	2	0	1	0	1
901	M91	1	max	.001	1	.004	1	.022	2	0	2	0	1	0	1
902			min	-.004	2	.002	2	.017	1	0	1	0	1	0	1
903		2	max	0	1	.002	1	.011	2	0	2	.01	2	.008	2
904			min	-.005	2	.001	2	.009	1	0	1	.009	1	.005	1
905		3	max	-.003	1	0	1	0	1	0	2	.014	2	.011	2
906			min	-.006	2	0	1	0	1	0	1	.012	1	.007	1
907		4	max	-.005	1	-.001	2	-.009	1	0	2	.01	2	.008	2
908			min	-.007	2	-.002	1	-.011	2	0	1	.009	1	.005	1
909		5	max	-.007	1	-.002	2	-.017	1	0	2	0	1	0	1
910			min	-.008	2	-.004	1	-.022	2	0	1	0	1	0	1
911	M92	1	max	.01	2	.004	1	.022	2	0	1	0	1	0	1
912			min	.006	1	.002	2	.017	1	0	2	0	1	0	1
913		2	max	.011	2	.002	1	.011	2	0	1	.01	2	.008	2
914			min	.008	1	.001	2	.009	1	0	2	.009	1	.005	1
915		3	max	.012	2	0	1	0	1	0	1	.014	2	.011	2
916			min	.01	1	0	1	0	1	0	2	.012	1	.007	1
917		4	max	.013	2	-.001	2	-.009	1	0	1	.01	2	.008	2
918			min	.012	1	-.002	1	-.011	2	0	2	.009	1	.005	1
919		5	max	.015	1	-.002	2	-.017	1	0	1	0	1	0	1
920			min	.014	2	-.004	1	-.022	2	0	2	0	1	0	1
921	M93	1	max	-1.112	1	.004	1	0	1	0	1	0	1	0	1
922			min	-1.267	2	.002	2	0	1	0	2	0	1	0	1
923		2	max	-1.114	1	.002	1	0	1	0	1	.002	1	0	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
924			min	-1.268	2	.001	2	0	1	0	2	0	2	-.002	1
925		3	max	-1.116	1	0	1	0	1	0	1	.002	1	-.001	2
926			min	-1.269	2	0	1	0	1	0	2	.001	2	-.002	1
927		4	max	-1.118	1	-.001	2	0	1	0	1	.002	1	0	2
928			min	-1.27	2	-.002	1	0	1	0	2	0	2	-.002	1
929		5	max	-1.12	1	-.002	2	0	1	0	1	0	1	0	1
930			min	-1.271	2	-.004	1	0	1	0	2	0	1	0	1
931	M94	1	max	1.354	2	.004	1	0	1	0	2	0	1	0	1
932			min	1.19	1	.002	2	0	1	0	1	0	1	0	1
933		2	max	1.355	2	.002	1	0	1	0	2	.002	1	0	2
934			min	1.192	1	.001	2	0	1	0	1	0	2	-.002	1
935		3	max	1.356	2	0	1	0	1	0	2	.002	1	-.001	2
936			min	1.194	1	0	1	0	1	0	1	.001	2	-.002	1
937		4	max	1.357	2	-.001	2	0	1	0	2	.002	1	0	2
938			min	1.196	1	-.002	1	0	1	0	1	0	2	-.002	1
939		5	max	1.357	2	-.002	2	0	1	0	2	0	1	0	1
940			min	1.198	1	-.004	1	0	1	0	1	0	1	0	1
941	M95	1	max	.007	2	.004	1	0	1	0	1	0	1	0	1
942			min	.006	1	.002	2	0	1	0	2	0	1	0	1
943		2	max	.008	2	.002	1	0	1	0	1	.002	1	0	2
944			min	.008	1	.001	2	0	1	0	2	0	2	-.002	1
945		3	max	.01	1	0	1	0	1	0	1	.002	1	-.001	2
946			min	.009	2	0	1	0	1	0	2	.001	2	-.002	1
947		4	max	.012	1	-.001	2	0	1	0	1	.002	1	0	2
948			min	.01	2	-.002	1	0	1	0	2	0	2	-.002	1
949		5	max	.014	1	-.002	2	0	1	0	1	0	1	0	1
950			min	.011	2	-.004	1	0	1	0	2	0	1	0	1
951	M96	1	max	-.003	1	.004	1	0	1	0	2	0	1	0	1
952			min	-.006	2	.002	2	0	1	0	1	0	1	0	1
953		2	max	-.005	1	.002	1	0	1	0	2	.002	1	0	2
954			min	-.007	2	.001	2	0	1	0	1	0	2	-.002	1
955		3	max	-.007	1	0	1	0	1	0	2	.002	1	-.001	2
956			min	-.008	2	0	1	0	1	0	1	.001	2	-.002	1
957		4	max	-.009	2	-.001	2	0	1	0	2	.002	1	0	2
958			min	-.009	1	-.002	1	0	1	0	1	0	2	-.002	1
959		5	max	-.01	2	-.002	2	0	1	0	2	0	1	0	1
960			min	-.011	1	-.004	1	0	1	0	1	0	1	0	1
961	M97	1	max	-1.08	1	.004	1	0	1	0	1	0	1	0	1
962			min	-1.228	2	.002	2	0	1	0	2	0	1	0	1
963		2	max	-1.082	1	.002	1	0	1	0	1	.002	1	0	2
964			min	-1.229	2	.001	2	0	1	0	2	0	2	-.002	1
965		3	max	-1.084	1	0	1	0	1	0	1	.002	1	-.001	2
966			min	-1.23	2	0	1	0	1	0	2	.001	2	-.002	1
967		4	max	-1.086	1	-.001	2	0	1	0	1	.002	1	0	2
968			min	-1.231	2	-.002	1	0	1	0	2	0	2	-.002	1
969		5	max	-1.089	1	-.002	2	0	1	0	1	0	1	0	1
970			min	-1.232	2	-.004	1	0	1	0	2	0	1	0	1
971	M98	1	max	1.391	2	.004	1	0	1	0	2	0	1	0	1
972			min	1.225	1	.002	2	0	1	0	1	0	1	0	1
973		2	max	1.392	2	.002	1	0	1	0	2	.002	1	0	2
974			min	1.227	1	.001	2	0	1	0	1	0	2	-.002	1
975		3	max	1.393	2	0	1	0	1	0	2	.002	1	-.001	2
976			min	1.229	1	0	1	0	1	0	1	.001	2	-.002	1
977		4	max	1.394	2	-.001	2	0	1	0	2	.002	1	0	2
978			min	1.231	1	-.002	1	0	1	0	1	0	2	-.002	1
979		5	max	1.395	2	-.002	2	0	1	0	2	0	1	0	1
980			min	1.233	1	-.004	1	0	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
981	M99	1	max	0	2	.012	1	.016	2	0	1	0	1	0	1
982			min	0	1	.009	2	.013	1	0	1	0	1	0	1
983		2	max	0	2	.006	1	.008	2	0	1	.007	2	-.004	2
984			min	0	1	.005	2	.006	1	0	1	.006	1	-.005	1
985		3	max	0	2	0	1	0	1	0	1	.009	2	-.005	2
986			min	0	1	0	1	0	1	0	1	.007	1	-.007	1
987		4	max	0	2	-.005	2	-.006	1	0	1	.007	2	-.004	2
988			min	0	1	-.006	1	-.008	2	0	1	.006	1	-.005	1
989		5	max	0	2	-.009	2	-.013	1	0	1	0	1	0	1
990			min	0	1	-.012	1	-.016	2	0	1	0	1	0	1
991	M100	1	max	0	1	.012	1	0	1	0	1	0	1	0	1
992			min	0	1	.009	2	0	1	0	1	0	1	0	1
993		2	max	0	1	.006	1	0	1	0	1	0	1	-.004	2
994			min	0	1	.005	2	0	1	0	1	0	1	-.005	1
995		3	max	0	1	0	1	0	1	0	1	0	1	-.005	2
996			min	0	1	0	1	0	1	0	1	0	1	-.007	1
997		4	max	0	1	-.005	2	0	1	0	1	0	1	-.004	2
998			min	0	1	-.006	1	0	1	0	1	0	1	-.005	1
999		5	max	0	1	-.009	2	0	1	0	1	0	1	0	1
1000			min	0	1	-.012	1	0	1	0	1	0	1	0	1
1001	M101	1	max	0	1	.012	1	0	1	0	1	0	1	0	1
1002			min	0	2	.009	2	0	1	0	1	0	1	0	1
1003		2	max	0	1	.006	1	0	1	0	1	0	1	-.004	2
1004			min	0	2	.005	2	0	1	0	1	0	1	-.005	1
1005		3	max	0	1	0	1	0	1	0	1	0	1	-.005	2
1006			min	0	2	0	1	0	1	0	1	0	1	-.007	1
1007		4	max	0	1	-.005	2	0	1	0	1	0	1	-.004	2
1008			min	0	2	-.006	1	0	1	0	1	0	1	-.005	1
1009		5	max	0	1	-.009	2	0	1	0	1	0	1	0	1
1010			min	0	2	-.012	1	0	1	0	1	0	1	0	1
1011	M102	1	max	0	1	.012	1	0	1	0	1	0	1	0	1
1012			min	0	1	.009	2	0	1	0	1	0	1	0	1
1013		2	max	0	1	.006	1	0	1	0	1	0	1	-.004	2
1014			min	0	1	.005	2	0	1	0	1	0	1	-.005	1
1015		3	max	0	1	0	1	0	1	0	1	0	1	-.005	2
1016			min	0	1	0	1	0	1	0	1	0	1	-.007	1
1017		4	max	0	1	-.005	2	0	1	0	1	0	1	-.004	2
1018			min	0	1	-.006	1	0	1	0	1	0	1	-.005	1
1019		5	max	0	1	-.009	2	0	1	0	1	0	1	0	1
1020			min	0	1	-.012	1	0	1	0	1	0	1	0	1
1021	M103	1	max	-.117	1	.002	1	0	1	0	1	0	1	0	1
1022			min	-.127	2	.001	2	0	1	0	2	0	1	0	1
1023		2	max	-.116	1	.001	1	0	1	0	1	0	1	0	2
1024			min	-.127	2	0	2	0	1	0	2	0	2	0	1
1025		3	max	-.115	1	0	1	0	1	0	1	0	1	0	2
1026			min	-.127	2	0	1	0	1	0	2	0	2	0	1
1027		4	max	-.114	1	0	2	0	1	0	1	0	1	0	2
1028			min	-.126	2	-.001	1	0	1	0	2	0	2	0	1
1029		5	max	-.113	1	-.001	2	0	1	0	1	0	1	0	1
1030			min	-.126	2	-.002	1	0	1	0	2	0	1	0	1
1031	M104	1	max	.122	2	.002	1	0	1	0	2	0	1	0	1
1032			min	.102	1	.001	2	0	1	0	1	0	1	0	1
1033		2	max	.121	2	.001	1	0	1	0	2	0	1	0	2
1034			min	.101	1	0	2	0	1	0	1	0	2	0	1
1035		3	max	.121	2	0	1	0	1	0	2	0	1	0	2
1036			min	.1	1	0	1	0	1	0	1	0	2	0	1
1037		4	max	.121	2	0	2	0	1	0	2	0	1	0	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1038			min	.099	1	-.001	1	0	1	0	1	0	2	0	1
1039		5	max	.12	2	-.001	2	0	1	0	2	0	1	0	1
1040			min	.098	1	-.002	1	0	1	0	1	0	1	0	1
1041	M105	1	max	.176	2	.002	1	0	1	0	1	0	1	0	1
1042			min	.16	1	.001	2	0	1	0	2	0	1	0	1
1043		2	max	.175	2	.001	1	0	1	0	1	0	1	0	2
1044			min	.159	1	0	2	0	1	0	2	0	2	0	1
1045		3	max	.175	2	0	1	0	1	0	1	0	1	0	2
1046			min	.158	1	0	1	0	1	0	2	0	2	0	1
1047		4	max	.174	2	0	2	0	1	0	1	0	1	0	2
1048			min	.157	1	-.001	1	0	1	0	2	0	2	0	1
1049		5	max	.174	2	-.001	2	0	1	0	1	0	1	0	1
1050			min	.156	1	-.002	1	0	1	0	2	0	1	0	1
1051	M106	1	max	-.14	1	.002	1	0	1	0	2	0	1	0	1
1052			min	-.165	2	.001	2	0	1	0	1	0	1	0	1
1053		2	max	-.139	1	.001	1	0	1	0	2	0	1	0	2
1054			min	-.164	2	0	2	0	1	0	1	0	2	0	1
1055		3	max	-.138	1	0	1	0	1	0	2	0	1	0	2
1056			min	-.164	2	0	1	0	1	0	1	0	2	0	1
1057		4	max	-.137	1	0	2	0	1	0	2	0	1	0	2
1058			min	-.163	2	-.001	1	0	1	0	1	0	2	0	1
1059		5	max	-.137	1	-.001	2	0	1	0	2	0	1	0	1
1060			min	-.163	2	-.002	1	0	1	0	1	0	1	0	1
1061	M107	1	max	.175	2	.002	1	0	1	0	1	0	1	0	1
1062			min	.159	1	.001	2	0	1	0	2	0	1	0	1
1063		2	max	.174	2	.001	1	0	1	0	1	0	1	0	2
1064			min	.158	1	0	2	0	1	0	2	0	2	0	1
1065		3	max	.174	2	0	1	0	1	0	1	0	1	0	2
1066			min	.157	1	0	1	0	1	0	2	0	2	0	1
1067		4	max	.173	2	0	2	0	1	0	1	0	1	0	2
1068			min	.157	1	-.001	1	0	1	0	2	0	2	0	1
1069		5	max	.173	2	-.001	2	0	1	0	1	0	1	0	1
1070			min	.156	1	-.002	1	0	1	0	2	0	1	0	1
1071	M108	1	max	-.14	1	.002	1	0	1	0	2	0	1	0	1
1072			min	-.164	2	.001	2	0	1	0	1	0	1	0	1
1073		2	max	-.139	1	.001	1	0	1	0	2	0	1	0	2
1074			min	-.164	2	0	2	0	1	0	1	0	2	0	1
1075		3	max	-.138	1	0	1	0	1	0	2	0	1	0	2
1076			min	-.163	2	0	1	0	1	0	1	0	2	0	1
1077		4	max	-.137	1	0	2	0	1	0	2	0	1	0	2
1078			min	-.163	2	-.001	1	0	1	0	1	0	2	0	1
1079		5	max	-.136	1	-.001	2	0	1	0	2	0	1	0	1
1080			min	-.162	2	-.002	1	0	1	0	1	0	1	0	1
1081	M109	1	max	.119	2	.002	1	0	1	0	2	0	1	0	1
1082			min	.098	1	.001	2	0	1	0	1	0	1	0	1
1083		2	max	.12	2	.001	1	0	1	0	2	0	1	0	2
1084			min	.099	1	0	2	0	1	0	1	0	2	0	1
1085		3	max	.12	2	0	1	0	1	0	2	0	1	0	2
1086			min	.1	1	0	1	0	1	0	1	0	2	0	1
1087		4	max	.121	2	0	2	0	1	0	2	0	1	0	2
1088			min	.101	1	-.001	1	0	1	0	1	0	2	0	1
1089		5	max	.121	2	-.001	2	0	1	0	2	0	1	0	1
1090			min	.101	1	-.002	1	0	1	0	1	0	1	0	1
1091	M110	1	max	-.112	1	.002	1	0	1	0	1	0	1	0	1
1092			min	-.125	2	.001	2	0	1	0	2	0	1	0	1
1093		2	max	-.113	1	.001	1	0	1	0	1	0	1	0	2
1094			min	-.125	2	0	2	0	1	0	2	0	2	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1095		3	max	-.114	1	0	1	0	1	0	1	0	1	0	2
1096			min	-.126	2	0	1	0	1	0	2	0	2	0	1
1097		4	max	-.115	1	0	2	0	1	0	1	0	1	0	2
1098			min	-.126	2	-.001	1	0	1	0	2	0	2	0	1
1099		5	max	-.116	1	-.001	2	0	1	0	1	0	1	0	1
1100			min	-.127	2	-.002	1	0	1	0	2	0	1	0	1
1101	M111	1	max	2.748	2	.002	1	0	1	0	2	0	1	0	1
1102			min	2.378	1	.001	2	0	1	0	1	0	1	0	1
1103		2	max	2.748	2	.001	1	0	1	0	2	0	1	0	2
1104			min	2.378	1	0	2	0	1	0	1	0	2	0	1
1105		3	max	2.749	2	0	1	0	1	0	2	0	1	0	2
1106			min	2.379	1	0	1	0	1	0	1	0	2	0	1
1107		4	max	2.749	2	0	2	0	1	0	2	0	1	0	2
1108			min	2.38	1	-.001	1	0	1	0	1	0	2	0	1
1109		5	max	2.75	2	-.001	2	0	1	0	2	0	1	0	1
1110			min	2.381	1	-.002	1	0	1	0	1	0	1	0	1
1111	M112	1	max	-2.388	1	.002	1	0	1	0	1	0	1	0	1
1112			min	-2.75	2	.001	2	0	1	0	2	0	1	0	1
1113		2	max	-2.389	1	.001	1	0	1	0	1	0	1	0	2
1114			min	-2.75	2	0	2	0	1	0	2	0	2	0	1
1115		3	max	-2.39	1	0	1	0	1	0	1	0	1	0	2
1116			min	-2.751	2	0	1	0	1	0	2	0	2	0	1
1117		4	max	-2.391	1	0	2	0	1	0	1	0	1	0	2
1118			min	-2.751	2	-.001	1	0	1	0	2	0	2	0	1
1119		5	max	-2.392	1	-.001	2	0	1	0	1	0	1	0	1
1120			min	-2.752	2	-.002	1	0	1	0	2	0	1	0	1
1121	M113	1	max	2.411	2	.002	1	0	1	0	1	0	1	0	1
1122			min	2.1	1	.001	2	0	1	0	2	0	1	0	1
1123		2	max	2.411	2	.001	1	0	1	0	1	0	1	0	2
1124			min	2.099	1	0	2	0	1	0	2	0	2	0	1
1125		3	max	2.41	2	0	1	0	1	0	1	0	1	0	2
1126			min	2.098	1	0	1	0	1	0	2	0	2	0	1
1127		4	max	2.41	2	0	2	0	1	0	1	0	1	0	2
1128			min	2.097	1	-.001	1	0	1	0	2	0	2	0	1
1129		5	max	2.409	2	-.001	2	0	1	0	1	0	1	0	1
1130			min	2.096	1	-.002	1	0	1	0	2	0	1	0	1
1131	M114	1	max	-2.076	1	.002	1	0	1	0	2	0	1	0	1
1132			min	-2.396	2	.001	2	0	1	0	1	0	1	0	1
1133		2	max	-2.075	1	.001	1	0	1	0	2	0	1	0	2
1134			min	-2.395	2	0	2	0	1	0	1	0	2	0	1
1135		3	max	-2.074	1	0	1	0	1	0	2	0	1	0	2
1136			min	-2.395	2	0	1	0	1	0	1	0	2	0	1
1137		4	max	-2.073	1	0	2	0	1	0	2	0	1	0	2
1138			min	-2.395	2	-.001	1	0	1	0	1	0	2	0	1
1139		5	max	-2.072	1	-.001	2	0	1	0	2	0	1	0	1
1140			min	-2.394	2	-.002	1	0	1	0	1	0	1	0	1
1141	M115	1	max	2.749	2	.002	1	0	1	0	2	0	1	0	1
1142			min	2.401	1	.001	2	0	1	0	1	0	1	0	1
1143		2	max	2.749	2	.001	1	0	1	0	2	0	1	0	2
1144			min	2.402	1	0	2	0	1	0	1	0	2	0	1
1145		3	max	2.75	2	0	1	0	1	0	2	0	1	0	2
1146			min	2.403	1	0	1	0	1	0	1	0	2	0	1
1147		4	max	2.75	2	0	2	0	1	0	2	0	1	0	2
1148			min	2.404	1	-.001	1	0	1	0	1	0	2	0	1
1149		5	max	2.751	2	-.001	2	0	1	0	2	0	1	0	1
1150			min	2.405	1	-.002	1	0	1	0	1	0	1	0	1
1151	M116	1	max	-2.414	1	.002	1	0	1	0	2	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1152			min	-2.754	2	.001	2	0	1	0	1	0	1	0	1
1153		2	max	-2.415	1	.001	1	0	1	0	2	0	1	0	2
1154			min	-2.754	2	0	2	0	1	0	1	0	2	0	1
1155		3	max	-2.416	1	0	1	0	1	0	2	0	1	0	2
1156			min	-2.755	2	0	1	0	1	0	1	0	2	0	1
1157		4	max	-2.417	1	0	2	0	1	0	2	0	1	0	2
1158			min	-2.755	2	-.001	1	0	1	0	1	0	2	0	1
1159		5	max	-2.418	1	-.001	2	0	1	0	2	0	1	0	1
1160			min	-2.756	2	-.002	1	0	1	0	1	0	1	0	1
1161	M117	1	max	2.408	2	.002	1	0	1	0	1	0	1	0	1
1162			min	2.115	1	.001	2	0	1	0	2	0	1	0	1
1163		2	max	2.408	2	.001	1	0	1	0	1	0	1	0	2
1164			min	2.114	1	0	2	0	1	0	2	0	2	0	1
1165		3	max	2.408	2	0	1	0	1	0	1	0	1	0	2
1166			min	2.113	1	0	1	0	1	0	2	0	2	0	1
1167		4	max	2.407	2	0	2	0	1	0	1	0	1	0	2
1168			min	2.112	1	-.001	1	0	1	0	2	0	2	0	1
1169		5	max	2.407	2	-.001	2	0	1	0	1	0	1	0	1
1170			min	2.111	1	-.002	1	0	1	0	2	0	1	0	1
1171	M118	1	max	-2.095	1	.002	1	0	1	0	2	0	1	0	1
1172			min	-2.399	2	.001	2	0	1	0	1	0	1	0	1
1173		2	max	-2.094	1	.001	1	0	1	0	2	0	1	0	2
1174			min	-2.398	2	0	2	0	1	0	1	0	2	0	1
1175		3	max	-2.093	1	0	1	0	1	0	2	0	1	0	2
1176			min	-2.398	2	0	1	0	1	0	1	0	2	0	1
1177		4	max	-2.092	1	0	2	0	1	0	2	0	1	0	2
1178			min	-2.397	2	-.001	1	0	1	0	1	0	2	0	1
1179		5	max	-2.092	1	-.001	2	0	1	0	2	0	1	0	1
1180			min	-2.397	2	-.002	1	0	1	0	1	0	1	0	1
1181	M119	1	max	-.154	1	-.525	2	-.147	1	-.109	1	0	2	.143	2
1182			min	-.178	2	-.598	1	-.168	2	-.125	2	0	1	.125	1
1183		2	max	-.154	1	-.525	2	-.147	1	-.109	1	-.06	1	.37	1
1184			min	-.178	2	-.598	1	-.168	2	-.125	2	-.069	2	.358	2
1185		3	max	-.154	1	-.525	2	-.147	1	-.109	1	-.12	1	.614	1
1186			min	-.178	2	-.598	1	-.168	2	-.125	2	-.137	2	.572	2
1187		4	max	-.154	1	-.525	2	-.147	1	-.109	1	-.18	1	.858	1
1188			min	-.178	2	-.598	1	-.168	2	-.125	2	-.206	2	.787	2
1189		5	max	-.154	1	-.525	2	-.147	1	-.109	1	-.24	1	1.103	1
1190			min	-.178	2	-.598	1	-.168	2	-.125	2	-.275	2	1.002	2
1191	M120	1	max	-.144	1	-.457	2	.178	2	.141	2	0	1	.125	2
1192			min	-.166	2	-.538	1	.155	1	.123	1	0	2	.109	1
1193		2	max	-.144	1	-.457	2	.178	2	.141	2	.073	2	.329	1
1194			min	-.166	2	-.538	1	.155	1	.123	1	.064	1	.312	2
1195		3	max	-.144	1	-.457	2	.178	2	.141	2	.146	2	.548	1
1196			min	-.166	2	-.538	1	.155	1	.123	1	.127	1	.498	2
1197		4	max	-.144	1	-.457	2	.178	2	.141	2	.218	2	.768	1
1198			min	-.166	2	-.538	1	.155	1	.123	1	.191	1	.685	2
1199		5	max	-.144	1	-.457	2	.178	2	.141	2	.291	2	.988	1
1200			min	-.166	2	-.538	1	.155	1	.123	1	.254	1	.872	2
1201	M121	1	max	.181	2	.121	2	-.169	1	-.117	1	0	2	-.098	1
1202			min	.159	1	-.034	1	-.193	2	-.135	2	0	1	-.113	2
1203		2	max	.181	2	.121	2	-.169	1	-.117	1	-.069	1	-.084	1
1204			min	.159	1	-.034	1	-.193	2	-.135	2	-.079	2	-.162	2
1205		3	max	.181	2	.121	2	-.169	1	-.117	1	-.138	1	-.07	1
1206			min	.159	1	-.034	1	-.193	2	-.135	2	-.158	2	-.212	2
1207		4	max	.181	2	.121	2	-.169	1	-.117	1	-.207	1	-.056	1
1208			min	.159	1	-.034	1	-.193	2	-.135	2	-.237	2	-.262	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1209		5	max	.181	2	.121	2	-.169	1	-.117	1	-.276	1	-.041	1
1210			min	.159	1	-.034	1	-.193	2	-.135	2	-.316	2	-.311	2
1211	M122	1	max	.193	2	.189	2	.182	2	.113	2	0	1	-.118	1
1212			min	.169	1	.024	1	.159	1	.098	1	0	2	-.137	2
1213		2	max	.193	2	.189	2	.182	2	.113	2	.074	2	-.128	1
1214			min	.169	1	.024	1	.159	1	.098	1	.065	1	-.214	2
1215		3	max	.193	2	.189	2	.182	2	.113	2	.149	2	-.138	1
1216			min	.169	1	.024	1	.159	1	.098	1	.13	1	-.291	2
1217		4	max	.193	2	.189	2	.182	2	.113	2	.223	2	-.148	1
1218			min	.169	1	.024	1	.159	1	.098	1	.195	1	-.368	2
1219		5	max	.193	2	.189	2	.182	2	.113	2	.297	2	-.158	1
1220			min	.169	1	.024	1	.159	1	.098	1	.26	1	-.446	2
1221	M123	1	max	-1.087	1	-13.707	1	-.855	1	-.37	1	0	2	.869	2
1222			min	-1.235	2	-14.759	2	-.984	2	-.424	2	0	1	.767	1
1223		2	max	-1.087	1	-13.707	1	-.855	1	-.37	1	-.35	1	6.903	2
1224			min	-1.235	2	-14.759	2	-.984	2	-.424	2	-.402	2	6.371	1
1225		3	max	-1.087	1	-13.707	1	-.855	1	-.37	1	-.699	1	12.937	2
1226			min	-1.235	2	-14.759	2	-.984	2	-.424	2	-.804	2	11.974	1
1227		4	max	-1.087	1	-13.707	1	-.855	1	-.37	1	-1.049	1	18.971	2
1228			min	-1.235	2	-14.759	2	-.984	2	-.424	2	-1.206	2	17.578	1
1229		5	max	-1.087	1	-13.707	1	-.855	1	-.37	1	-1.398	1	25.004	2
1230			min	-1.235	2	-14.759	2	-.984	2	-.424	2	-1.608	2	23.182	1
1231	M124	1	max	-1.026	1	-13.956	1	.902	2	.691	2	0	2	.515	2
1232			min	-1.175	2	-15.053	2	.773	1	.595	1	0	1	.452	1
1233		2	max	-1.026	1	-13.956	1	.902	2	.691	2	.369	2	6.668	2
1234			min	-1.175	2	-15.053	2	.773	1	.595	1	.316	1	6.157	1
1235		3	max	-1.026	1	-13.956	1	.902	2	.691	2	.737	2	12.822	2
1236			min	-1.175	2	-15.053	2	.773	1	.595	1	.632	1	11.862	1
1237		4	max	-1.026	1	-13.956	1	.902	2	.691	2	1.106	2	18.976	2
1238			min	-1.175	2	-15.053	2	.773	1	.595	1	.948	1	17.567	1
1239		5	max	-1.026	1	-13.956	1	.902	2	.691	2	1.475	2	25.129	2
1240			min	-1.175	2	-15.053	2	.773	1	.595	1	1.264	1	23.272	1
1241	M125	1	max	1.247	2	12.965	2	1.02	2	.428	2	0	2	-.743	1
1242			min	1.081	1	10.609	1	.892	1	.373	1	0	1	-.859	2
1243		2	max	1.247	2	12.965	2	1.02	2	.428	2	.417	2	-5.08	1
1244			min	1.081	1	10.609	1	.892	1	.373	1	.365	1	-6.159	2
1245		3	max	1.247	2	12.965	2	1.02	2	.428	2	.834	2	-9.417	1
1246			min	1.081	1	10.609	1	.892	1	.373	1	.729	1	-11.459	2
1247		4	max	1.247	2	12.965	2	1.02	2	.428	2	1.251	2	-13.753	1
1248			min	1.081	1	10.609	1	.892	1	.373	1	1.094	1	-16.759	2
1249		5	max	1.247	2	12.965	2	1.02	2	.428	2	1.669	2	-18.09	1
1250			min	1.081	1	10.609	1	.892	1	.373	1	1.459	1	-22.059	2
1251	M126	1	max	1.187	2	13.25	2	-.827	1	-.611	1	0	1	-.436	1
1252			min	1.034	1	10.865	1	-.937	2	-.695	2	0	2	-.503	2
1253		2	max	1.187	2	13.25	2	-.827	1	-.611	1	-.338	1	-4.878	1
1254			min	1.034	1	10.865	1	-.937	2	-.695	2	-.383	2	-5.919	2
1255		3	max	1.187	2	13.25	2	-.827	1	-.611	1	-.676	1	-9.319	1
1256			min	1.034	1	10.865	1	-.937	2	-.695	2	-.766	2	-11.336	2
1257		4	max	1.187	2	13.25	2	-.827	1	-.611	1	-1.014	1	-13.761	1
1258			min	1.034	1	10.865	1	-.937	2	-.695	2	-1.149	2	-16.752	2
1259		5	max	1.187	2	13.25	2	-.827	1	-.611	1	-1.352	1	-18.202	1
1260			min	1.034	1	10.865	1	-.937	2	-.695	2	-1.532	2	-22.169	2
1261	M127	1	max	.519	2	.724	1	.515	2	0	1	0	1	0	1
1262			min	.455	1	.492	2	.454	1	0	2	0	2	0	2
1263		2	max	.519	2	.724	1	.515	2	0	1	.21	2	-.201	2
1264			min	.455	1	.492	2	.454	1	0	2	.185	1	-.296	1
1265		3	max	.519	2	.724	1	.515	2	0	1	.421	2	-.403	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1266			min	.455	1	.492	2	.454	1	0	2	.371	1	-.592	1
1267		4	max	.519	2	.724	1	.515	2	0	1	.632	2	-.604	2
1268			min	.455	1	.492	2	.454	1	0	2	.557	1	-.888	1
1269		5	max	.519	2	.724	1	.515	2	0	1	.842	2	-.805	2
1270			min	.455	1	.492	2	.454	1	0	2	.742	1	-1.184	1
1271	M128	1	max	.504	2	.707	1	-.44	1	0	2	0	2	0	2
1272			min	.444	1	.491	2	-.5	2	0	1	0	1	0	1
1273		2	max	.504	2	.707	1	-.44	1	0	2	-.18	1	-.201	2
1274			min	.444	1	.491	2	-.5	2	0	1	-.204	2	-.289	1
1275		3	max	.504	2	.707	1	-.44	1	0	2	-.36	1	-.401	2
1276			min	.444	1	.491	2	-.5	2	0	1	-.409	2	-.578	1
1277		4	max	.504	2	.707	1	-.44	1	0	2	-.54	1	-.602	2
1278			min	.444	1	.491	2	-.5	2	0	1	-.613	2	-.867	1
1279		5	max	.504	2	.707	1	-.44	1	0	2	-.72	1	-.803	2
1280			min	.444	1	.491	2	-.5	2	0	1	-.817	2	-1.155	1
1281	M129	1	max	-.453	1	.724	1	-.444	1	0	2	0	2	0	1
1282			min	-.51	2	.493	2	-.502	2	0	1	0	1	0	2
1283		2	max	-.453	1	.724	1	-.444	1	0	2	-.181	1	-.201	2
1284			min	-.51	2	.493	2	-.502	2	0	1	-.205	2	-.296	1
1285		3	max	-.453	1	.724	1	-.444	1	0	2	-.363	1	-.403	2
1286			min	-.51	2	.493	2	-.502	2	0	1	-.411	2	-.592	1
1287		4	max	-.453	1	.724	1	-.444	1	0	2	-.544	1	-.604	2
1288			min	-.51	2	.493	2	-.502	2	0	1	-.616	2	-.888	1
1289		5	max	-.453	1	.724	1	-.444	1	0	2	-.726	1	-.805	2
1290			min	-.51	2	.493	2	-.502	2	0	1	-.821	2	-1.184	1
1291	M130	1	max	-.437	1	.707	1	.487	2	0	1	0	1	0	2
1292			min	-.494	2	.491	2	.43	1	0	2	0	2	0	1
1293		2	max	-.437	1	.707	1	.487	2	0	1	.199	2	-.201	2
1294			min	-.494	2	.491	2	.43	1	0	2	.176	1	-.289	1
1295		3	max	-.437	1	.707	1	.487	2	0	1	.398	2	-.401	2
1296			min	-.494	2	.491	2	.43	1	0	2	.352	1	-.578	1
1297		4	max	-.437	1	.707	1	.487	2	0	1	.597	2	-.602	2
1298			min	-.494	2	.491	2	.43	1	0	2	.527	1	-.867	1
1299		5	max	-.437	1	.707	1	.487	2	0	1	.796	2	-.803	2
1300			min	-.494	2	.491	2	.43	1	0	2	.703	1	-1.155	1

Envelope Member Section Stresses

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1	M1	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
2			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
3		2	max	.099	1	-.001	1	.079	2	.097	2	-.086	1	-.283	1	.368	2
4			min	.093	2	-.002	2	.071	1	.086	1	-.097	2	-.312	2	.335	1
5		3	max	-.002	2	.006	2	.02	2	.173	2	-.157	1	-.262	1	.344	2
6			min	-.033	1	.005	1	.018	1	.157	1	-.173	2	-.291	2	.31	1
7		4	max	-4.201	1	-.151	1	1.394	2	3.061	2	-2.679	1	-3.672	1	4.974	2
8			min	-5.08	2	-.176	2	1.219	1	2.679	1	-3.061	2	-4.208	2	4.341	1
9		5	max	-2.521	1	-.045	1	.053	2	.671	2	-.593	1	.139	2	-.127	1
10			min	-3.135	2	-.052	2	.049	1	.593	1	-.671	2	.108	1	-.165	2
11	M2	1	max	-2.521	1	-.045	1	.053	2	.671	2	-.593	1	.139	2	-.127	1
12			min	-3.135	2	-.052	2	.049	1	.593	1	-.671	2	.108	1	-.165	2
13		2	max	-1.545	1	.017	2	.032	2	.103	2	-.089	1	-.254	1	.36	2
14			min	-1.986	2	.015	1	.028	1	.089	1	-.103	2	-.305	2	.301	1
15		3	max	-.763	1	-.008	1	.092	2	.276	2	-.245	1	-.068	2	.081	1
16			min	-1.071	2	-.009	2	.082	1	.245	1	-.276	2	-.069	1	.081	2
17		4	max	-.01	1	-.003	1	-.128	1	-.006	1	.009	2	.102	2	-.099	1
18			min	-.186	2	-.004	2	-.147	2	-.009	2	.006	1	.084	1	-.121	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
19		5	max	.349	1	.006	2	.779	2	0	1	0	1	0	1	0	1
20			min	.244	2	.005	1	.686	1	0	1	0	1	0	1	0	1
21	M3	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
22			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
23		2	max	-.049	1	-.001	1	.012	2	.029	2	-.016	1	-.11	1	.147	2
24			min	-.078	2	-.002	2	.01	1	.016	1	-.029	2	-.124	2	.13	1
25		3	max	-.032	2	.005	2	.056	2	.208	2	-.178	1	-.328	1	.457	2
26			min	-.059	1	.004	1	.048	1	.178	1	-.208	2	-.387	2	.388	1
27		4	max	5.708	2	-.034	1	1.352	2	3.332	2	-2.93	1	-3.713	1	5.01	2
28			min	5.264	1	-.044	2	1.185	1	2.93	1	-3.332	2	-4.238	2	4.39	1
29		5	max	3.722	2	.023	1	-.005	2	.293	2	-.23	1	-.179	1	.244	2
30			min	3.506	1	.022	2	-.008	1	.23	1	-.293	2	-.206	2	.211	1
31	M4	1	max	3.722	2	.023	1	-.005	2	.293	2	-.23	1	-.179	1	.244	2
32			min	3.506	1	.022	2	-.008	1	.23	1	-.293	2	-.206	2	.211	1
33		2	max	2.541	2	-.024	1	.006	1	.436	2	-.404	1	-.031	1	.04	2
34			min	2.438	1	-.026	2	.004	2	.404	1	-.436	2	-.034	2	.037	1
35		3	max	1.564	2	.011	2	.041	2	.092	2	-.071	1	-.206	1	.278	2
36			min	1.56	1	.01	1	.036	1	.071	1	-.092	2	-.235	2	.244	1
37		4	max	.755	1	-.009	1	-.188	1	-.024	2	.026	1	.431	2	-.448	1
38			min	.675	2	-.01	2	-.213	2	-.026	1	.024	2	.379	1	-.509	2
39		5	max	.358	1	0	1	.802	2	0	1	0	1	0	1	0	1
40			min	.245	2	-.003	2	.705	1	0	1	0	1	0	1	0	1
41	M5	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
42			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
43		2	max	.089	1	0	2	.078	2	.082	1	-.08	2	-.283	1	.377	2
44			min	.081	2	0	1	.07	1	.08	2	-.082	1	-.319	2	.335	1
45		3	max	.012	2	.003	2	.022	2	.16	2	-.143	1	-.269	1	.353	2
46			min	-.02	1	.003	1	.02	1	.143	1	-.16	2	-.298	2	.318	1
47		4	max	-4.16	1	-.049	1	1.375	2	3.162	2	-2.734	1	-3.426	1	4.68	2
48			min	-5.029	2	-.053	2	1.191	1	2.734	1	-3.162	2	-3.959	2	4.05	1
49		5	max	-2.5	1	.015	2	.028	1	.294	2	-.282	1	-.089	1	.118	2
50			min	-3.107	2	.011	1	.028	2	.282	1	-.294	2	-.1	2	.106	1
51	M6	1	max	-2.5	1	.015	2	.028	1	.294	2	-.282	1	-.089	1	.118	2
52			min	-3.107	2	.011	1	.028	2	.282	1	-.294	2	-.1	2	.106	1
53		2	max	-1.548	1	-.018	1	.04	2	.383	2	-.317	1	-.014	1	.021	2
54			min	-1.989	2	-.022	2	.035	1	.317	1	-.383	2	-.018	2	.017	1
55		3	max	-.734	1	.011	2	.092	2	.141	2	-.136	1	-.261	1	.348	2
56			min	-1.042	2	.01	1	.082	1	.136	1	-.141	2	-.294	2	.308	1
57		4	max	-.008	1	-.009	1	-.133	1	.078	2	-.077	1	.269	2	-.276	1
58			min	-.191	2	-.01	2	-.153	2	.077	1	-.078	2	.234	1	-.318	2
59		5	max	.358	1	-.006	2	.803	2	0	1	0	1	0	1	0	1
60			min	.245	2	-.007	1	.709	1	0	1	0	1	0	1	0	1
61	M7	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
62			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
63		2	max	-.059	1	-.005	1	.013	2	.051	2	-.046	1	-.096	1	.136	2
64			min	-.088	2	-.005	2	.012	1	.046	1	-.051	2	-.115	2	.114	1
65		3	max	-.019	2	.008	2	.054	2	.221	2	-.186	1	-.325	1	.452	2
66			min	-.047	1	.007	1	.046	1	.186	1	-.221	2	-.383	2	.384	1
67		4	max	5.762	2	-.163	1	1.372	2	3.193	2	-2.779	1	-3.917	1	5.32	2
68			min	5.315	1	-.184	2	1.192	1	2.779	1	-3.193	2	-4.5	2	4.63	1
69		5	max	3.749	2	-.049	1	.026	2	.727	2	-.635	1	.072	1	-.078	2
70			min	3.531	1	-.055	2	.021	1	.635	1	-.727	2	.066	2	-.085	1
71	M8	1	max	3.749	2	-.049	1	.026	2	.727	2	-.635	1	.072	1	-.078	2
72			min	3.531	1	-.055	2	.021	1	.635	1	-.727	2	.066	2	-.085	1
73		2	max	2.54	2	.019	2	-.005	1	.108	2	-.098	1	-.32	1	.413	2
74			min	2.438	1	.017	1	-.006	2	.098	1	-.108	2	-.35	2	.378	1
75		3	max	1.591	2	-.008	1	.041	2	.251	2	-.22	1	.012	1	-.008	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
76			min	1.581	1	-.009	2	.036	1	.22	1	-.251	2	.006	2	-.014	1
77		4	max	.742	1	-.003	1	-.182	1	-.076	1	.087	2	.274	2	-.29	1
78			min	.668	2	-.004	2	-.206	2	-.087	2	.076	1	.245	1	-.324	2
79		5	max	.349	1	.003	2	.778	2	0	1	0	1	0	1	0	1
80			min	.244	2	.002	1	.686	1	0	1	0	1	0	1	0	1
81	M9	1	max	-.015	2	.019	1	0	1	0	1	0	1	0	1	0	1
82			min	-.018	1	.009	2	0	1	0	1	0	1	0	1	0	1
83		2	max	-.015	2	.009	1	0	1	.092	1	-.043	2	.178	1	-.106	2
84			min	-.018	1	.004	2	0	1	.043	2	-.092	1	.084	2	-.224	1
85		3	max	-.015	2	0	1	0	1	.122	1	-.058	2	.237	1	-.141	2
86			min	-.018	1	0	1	0	1	.058	2	-.122	1	.112	2	-.298	1
87		4	max	-.015	2	-.004	2	0	1	.092	1	-.043	2	.178	1	-.106	2
88			min	-.018	1	-.009	1	0	1	.043	2	-.092	1	.084	2	-.224	1
89		5	max	-.015	2	-.009	2	0	1	0	1	0	1	0	1	0	1
90			min	-.018	1	-.019	1	0	1	0	1	0	1	0	1	0	1
91	M10	1	max	.079	2	.019	1	0	1	0	1	0	1	0	1	0	1
92			min	.063	1	.009	2	0	1	0	1	0	1	0	1	0	1
93		2	max	.079	2	.009	1	0	1	.092	1	-.043	2	.178	1	-.106	2
94			min	.063	1	.004	2	0	1	.043	2	-.092	1	.084	2	-.224	1
95		3	max	.079	2	0	1	0	1	.122	1	-.058	2	.237	1	-.141	2
96			min	.063	1	0	1	0	1	.058	2	-.122	1	.112	2	-.298	1
97		4	max	.079	2	-.004	2	0	1	.092	1	-.043	2	.178	1	-.106	2
98			min	.063	1	-.009	1	0	1	.043	2	-.092	1	.084	2	-.224	1
99		5	max	.079	2	-.009	2	0	1	0	1	0	1	0	1	0	1
100			min	.063	1	-.019	1	0	1	0	1	0	1	0	1	0	1
101	M11	1	max	.009	2	.019	1	-.054	1	0	1	0	1	0	1	0	1
102			min	.003	1	.009	2	-.069	2	0	1	0	1	0	1	0	1
103		2	max	.009	2	.009	1	-.027	1	.382	2	-.358	1	-.338	1	.72	2
104			min	.003	1	.004	2	-.035	2	.358	1	-.382	2	-.573	2	.425	1
105		3	max	.009	2	0	1	0	1	.51	2	-.477	1	-.451	1	.96	2
106			min	.003	1	0	1	0	1	.477	1	-.51	2	-.764	2	.567	1
107		4	max	.009	2	-.004	2	.035	2	.382	2	-.358	1	-.338	1	.72	2
108			min	.003	1	-.009	1	.027	1	.358	1	-.382	2	-.573	2	.425	1
109		5	max	.009	2	-.009	2	.069	2	0	1	0	1	0	1	0	1
110			min	.003	1	-.019	1	.054	1	0	1	0	1	0	1	0	1
111	M12	1	max	.074	2	.019	1	0	1	0	1	0	1	0	1	0	1
112			min	.059	1	.009	2	0	1	0	1	0	1	0	1	0	1
113		2	max	.074	2	.009	1	0	1	.092	1	-.043	2	.178	1	-.106	2
114			min	.059	1	.004	2	0	1	.043	2	-.092	1	.084	2	-.224	1
115		3	max	.074	2	0	1	0	1	.122	1	-.058	2	.237	1	-.141	2
116			min	.059	1	0	1	0	1	.058	2	-.122	1	.112	2	-.298	1
117		4	max	.074	2	-.004	2	0	1	.092	1	-.043	2	.178	1	-.106	2
118			min	.059	1	-.009	1	0	1	.043	2	-.092	1	.084	2	-.224	1
119		5	max	.074	2	-.009	2	0	1	0	1	0	1	0	1	0	1
120			min	.059	1	-.019	1	0	1	0	1	0	1	0	1	0	1
121	M13	1	max	.052	1	.019	1	0	1	0	1	0	1	0	1	0	1
122			min	.047	2	.009	2	0	1	0	1	0	1	0	1	0	1
123		2	max	.047	1	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
124			min	.044	2	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
125		3	max	.041	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
126			min	.041	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
127		4	max	.039	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
128			min	.035	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
129		5	max	.036	2	-.009	2	0	1	0	1	0	1	0	1	0	1
130			min	.029	1	-.019	1	0	1	0	1	0	1	0	1	0	1
131	M14	1	max	.02	1	.019	1	0	1	0	1	0	1	0	1	0	1
132			min	.009	2	.009	2	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
133		2	max	.014	1	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
134			min	.006	2	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
135		3	max	.008	1	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
136			min	.003	2	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
137		4	max	.002	1	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
138			min	0	2	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
139		5	max	-.002	2	-.009	2	0	1	0	1	0	1	0	1	0	1
140			min	-.004	1	-.019	1	0	1	0	1	0	1	0	1	0	1
141	M15	1	max	.732	2	.019	1	0	1	0	1	0	1	0	1	0	1
142			min	.653	1	.009	2	0	1	0	1	0	1	0	1	0	1
143		2	max	.729	2	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
144			min	.647	1	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
145		3	max	.726	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
146			min	.641	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
147		4	max	.723	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
148			min	.635	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
149		5	max	.721	2	-.009	2	0	1	0	1	0	1	0	1	0	1
150			min	.629	1	-.019	1	0	1	0	1	0	1	0	1	0	1
151	M16	1	max	-.293	1	.019	1	0	1	0	1	0	1	0	1	0	1
152			min	-.353	2	.009	2	0	1	0	1	0	1	0	1	0	1
153		2	max	-.299	1	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
154			min	-.355	2	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
155		3	max	-.305	1	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
156			min	-.358	2	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
157		4	max	-.311	1	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
158			min	-.361	2	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
159		5	max	-.317	1	-.009	2	0	1	0	1	0	1	0	1	0	1
160			min	-.364	2	-.019	1	0	1	0	1	0	1	0	1	0	1
161	M17	1	max	-.006	1	.019	1	-.094	1	0	1	0	1	0	1	0	1
162			min	-.02	2	.009	2	-.119	2	0	1	0	1	0	1	0	1
163		2	max	-.011	1	.009	1	-.047	1	1.083	2	-.951	1	-1.23	1	2.275	2
164			min	-.022	2	.004	2	-.06	2	.951	1	-1.083	2	-1.811	2	1.545	1
165		3	max	-.017	1	0	1	0	1	1.444	2	-1.267	1	-1.639	1	3.034	2
166			min	-.025	2	0	1	0	1	1.267	1	-1.444	2	-2.414	2	2.06	1
167		4	max	-.023	1	-.004	2	.06	2	1.083	2	-.951	1	-1.23	1	2.275	2
168			min	-.028	2	-.009	1	.047	1	.951	1	-1.083	2	-1.811	2	1.545	1
169		5	max	-.029	1	-.009	2	.119	2	0	1	0	1	0	1	0	1
170			min	-.031	2	-.019	1	.094	1	0	1	0	1	0	1	0	1
171	M18	1	max	.017	1	.019	1	.119	2	0	1	0	1	0	1	0	1
172			min	.006	2	.009	2	.094	1	0	1	0	1	0	1	0	1
173		2	max	.011	1	.009	1	.06	2	-.634	1	.933	2	2.101	2	-2.317	1
174			min	.003	2	.004	2	.047	1	-.933	2	.634	1	1.844	1	-2.64	2
175		3	max	.005	1	0	1	0	1	-.845	1	1.244	2	2.801	2	-3.09	1
176			min	0	2	0	1	0	1	-1.244	2	.845	1	2.459	1	-3.52	2
177		4	max	0	1	-.004	2	-.047	1	-.634	1	.933	2	2.101	2	-2.317	1
178			min	-.003	2	-.009	1	-.06	2	-.933	2	.634	1	1.844	1	-2.64	2
179		5	max	-.005	2	-.009	2	-.094	1	0	1	0	1	0	1	0	1
180			min	-.006	1	-.019	1	-.119	2	0	1	0	1	0	1	0	1
181	M19	1	max	-.286	1	.019	1	0	1	0	1	0	1	0	1	0	1
182			min	-.346	2	.009	2	0	1	0	1	0	1	0	1	0	1
183		2	max	-.292	1	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
184			min	-.348	2	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
185		3	max	-.297	1	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
186			min	-.351	2	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
187		4	max	-.303	1	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
188			min	-.354	2	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
189		5	max	-.309	1	-.009	2	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
190			min	-.357	2	-.019	1	0	1	0	1	0	1	0	1	0	1
191	M20	1	max	.741	2	.019	1	0	1	0	1	0	1	0	1	0	1
192			min	.659	1	.009	2	0	1	0	1	0	1	0	1	0	1
193		2	max	.738	2	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
194			min	.653	1	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
195		3	max	.735	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
196			min	.648	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
197		4	max	.732	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
198			min	.642	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
199		5	max	.73	2	-.009	2	0	1	0	1	0	1	0	1	0	1
200			min	.636	1	-.019	1	0	1	0	1	0	1	0	1	0	1
201	M21	1	max	.008	1	.019	1	0	1	0	1	0	1	0	1	0	1
202			min	.003	2	.009	2	0	1	0	1	0	1	0	1	0	1
203		2	max	.002	1	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
204			min	0	2	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
205		3	max	-.003	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
206			min	-.004	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
207		4	max	-.005	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
208			min	-.009	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
209		5	max	-.008	2	-.009	2	0	1	0	1	0	1	0	1	0	1
210			min	-.015	1	-.019	1	0	1	0	1	0	1	0	1	0	1
211	M22	1	max	-.035	2	.019	1	0	1	0	1	0	1	0	1	0	1
212			min	-.041	1	.009	2	0	1	0	1	0	1	0	1	0	1
213		2	max	-.033	2	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
214			min	-.035	1	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
215		3	max	-.029	1	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
216			min	-.03	2	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
217		4	max	-.023	1	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
218			min	-.027	2	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
219		5	max	-.017	1	-.009	2	0	1	0	1	0	1	0	1	0	1
220			min	-.024	2	-.019	1	0	1	0	1	0	1	0	1	0	1
221	M23	1	max	.259	2	.019	1	0	1	0	1	0	1	0	1	0	1
222			min	.225	1	.009	2	0	1	0	1	0	1	0	1	0	1
223		2	max	.256	2	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
224			min	.219	1	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
225		3	max	.254	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
226			min	.213	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
227		4	max	.251	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
228			min	.207	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
229		5	max	.248	2	-.009	2	0	1	0	1	0	1	0	1	0	1
230			min	.202	1	-.019	1	0	1	0	1	0	1	0	1	0	1
231	M24	1	max	.076	2	.019	1	0	1	0	1	0	1	0	1	0	1
232			min	.068	1	.009	2	0	1	0	1	0	1	0	1	0	1
233		2	max	.074	2	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
234			min	.062	1	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
235		3	max	.071	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
236			min	.057	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
237		4	max	.068	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
238			min	.051	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
239		5	max	.065	2	-.009	2	0	1	0	1	0	1	0	1	0	1
240			min	.045	1	-.019	1	0	1	0	1	0	1	0	1	0	1
241	M25	1	max	-.006	1	.019	1	-.094	1	0	1	0	1	0	1	0	1
242			min	-.014	2	.009	2	-.119	2	0	1	0	1	0	1	0	1
243		2	max	-.012	1	.009	1	-.047	1	1.083	2	-.951	1	-1.23	1	2.275	2
244			min	-.016	2	.004	2	-.06	2	.951	1	-1.083	2	-1.811	2	1.545	1
245		3	max	-.018	1	0	1	0	1	1.444	2	-1.267	1	-1.639	1	3.034	2
246			min	-.019	2	0	1	0	1	1.267	1	-1.444	2	-2.414	2	2.06	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
247		4	max	-.022	2	-.004	2	.06	2	1.083	2	-.951	1	-1.23	1	2.275	2
248			min	-.024	1	-.009	1	.047	1	.951	1	-1.083	2	-1.811	2	1.545	1
249		5	max	-.025	2	-.009	2	.119	2	0	1	0	1	0	1	0	1
250			min	-.03	1	-.019	1	.094	1	0	1	0	1	0	1	0	1
251	M26	1	max	.039	2	.019	1	.119	2	0	1	0	1	0	1	0	1
252			min	.038	1	.009	2	.094	1	0	1	0	1	0	1	0	1
253		2	max	.036	2	.009	1	.06	2	-.634	1	.933	2	2.101	2	-2.317	1
254			min	.032	1	.004	2	.047	1	-.933	2	.634	1	1.844	1	-2.64	2
255		3	max	.033	2	0	1	0	1	-.845	1	1.244	2	2.801	2	-3.09	1
256			min	.026	1	0	1	0	1	-1.244	2	.845	1	2.459	1	-3.52	2
257		4	max	.031	2	-.004	2	-.047	1	-.634	1	.933	2	2.101	2	-2.317	1
258			min	.02	1	-.009	1	-.06	2	-.933	2	.634	1	1.844	1	-2.64	2
259		5	max	.028	2	-.009	2	-.094	1	0	1	0	1	0	1	0	1
260			min	.014	1	-.019	1	-.119	2	0	1	0	1	0	1	0	1
261	M27	1	max	.074	2	.019	1	0	1	0	1	0	1	0	1	0	1
262			min	.065	1	.009	2	0	1	0	1	0	1	0	1	0	1
263		2	max	.072	2	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
264			min	.059	1	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
265		3	max	.069	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
266			min	.053	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
267		4	max	.066	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
268			min	.047	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
269		5	max	.063	2	-.009	2	0	1	0	1	0	1	0	1	0	1
270			min	.041	1	-.019	1	0	1	0	1	0	1	0	1	0	1
271	M28	1	max	.26	2	.019	1	0	1	0	1	0	1	0	1	0	1
272			min	.227	1	.009	2	0	1	0	1	0	1	0	1	0	1
273		2	max	.257	2	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
274			min	.222	1	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
275		3	max	.255	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
276			min	.216	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
277		4	max	.252	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
278			min	.21	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
279		5	max	.249	2	-.009	2	0	1	0	1	0	1	0	1	0	1
280			min	.204	1	-.019	1	0	1	0	1	0	1	0	1	0	1
281	M29	1	max	.048	1	.019	1	.119	2	0	1	0	1	0	1	0	1
282			min	.047	2	.009	2	.094	1	0	1	0	1	0	1	0	1
283		2	max	.044	2	.009	1	.06	2	-.634	1	.933	2	2.101	2	-2.317	1
284			min	.042	1	.004	2	.047	1	-.933	2	.634	1	1.844	1	-2.64	2
285		3	max	.041	2	0	1	0	1	-.845	1	1.244	2	2.801	2	-3.09	1
286			min	.036	1	0	1	0	1	-1.244	2	.845	1	2.459	1	-3.52	2
287		4	max	.038	2	-.004	2	-.047	1	-.634	1	.933	2	2.101	2	-2.317	1
288			min	.03	1	-.009	1	-.06	2	-.933	2	.634	1	1.844	1	-2.64	2
289		5	max	.036	2	-.009	2	-.094	1	0	1	0	1	0	1	0	1
290			min	.025	1	-.019	1	-.119	2	0	1	0	1	0	1	0	1
291	M30	1	max	-.023	1	.019	1	-.094	1	0	1	0	1	0	1	0	1
292			min	-.034	2	.009	2	-.119	2	0	1	0	1	0	1	0	1
293		2	max	-.029	1	.009	1	-.047	1	1.083	2	-.951	1	-1.23	1	2.275	2
294			min	-.037	2	.004	2	-.06	2	.951	1	-1.083	2	-1.811	2	1.545	1
295		3	max	-.034	1	0	1	0	1	1.444	2	-1.267	1	-1.639	1	3.034	2
296			min	-.039	2	0	1	0	1	1.267	1	-1.444	2	-2.414	2	2.06	1
297		4	max	-.04	1	-.004	2	.06	2	1.083	2	-.951	1	-1.23	1	2.275	2
298			min	-.042	2	-.009	1	.047	1	.951	1	-1.083	2	-1.811	2	1.545	1
299		5	max	-.045	2	-.009	2	.119	2	0	1	0	1	0	1	0	1
300			min	-.046	1	-.019	1	.094	1	0	1	0	1	0	1	0	1
301	M31	1	max	.305	2	.011	1	0	2	0	1	0	1	0	1	0	1
302			min	.271	1	.007	2	0	1	0	1	0	1	0	1	0	1
303		2	max	.305	2	.003	2	0	2	.038	1	-.031	2	.074	1	-.076	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
304			min	.271	1	.001	1	0	1	.031	2	-.038	1	.06	2	-.093	1
305		3	max	-.037	1	.008	1	0	2	.033	2	-.015	1	.064	2	-.037	1
306			min	-.05	2	.002	2	0	1	.015	1	-.033	2	.029	1	-.08	2
307		4	max	-.037	1	-.001	1	0	2	.038	1	-.031	2	.074	1	-.075	2
308			min	-.05	2	-.003	2	0	1	.031	2	-.038	1	.06	2	-.093	1
309		5	max	-.037	1	-.007	2	0	2	0	1	0	1	0	1	0	1
310			min	-.05	2	-.011	1	0	1	0	1	0	1	0	1	0	1
311	M32	1	max	.298	2	.01	1	0	2	0	1	0	1	0	1	0	1
312			min	.266	1	.007	2	0	1	0	1	0	1	0	1	0	1
313		2	max	.298	2	.002	2	0	2	.038	1	-.031	2	.073	1	-.075	2
314			min	.266	1	.001	1	0	1	.031	2	-.038	1	.059	2	-.092	1
315		3	max	-.041	1	.008	1	0	2	.032	2	-.014	1	.063	2	-.035	1
316			min	-.055	2	.002	2	0	1	.014	1	-.032	2	.028	1	-.079	2
317		4	max	-.041	1	-.001	1	0	2	.038	1	-.031	2	.073	1	-.075	2
318			min	-.055	2	-.002	2	0	1	.031	2	-.038	1	.059	2	-.092	1
319		5	max	-.041	1	-.007	2	0	2	0	1	0	1	0	1	0	1
320			min	-.055	2	-.01	1	0	1	0	1	0	1	0	1	0	1
321	M33	1	max	.055	2	.019	1	0	1	0	1	0	1	0	1	0	1
322			min	.055	1	.009	2	0	1	0	1	0	1	0	1	0	1
323		2	max	.053	2	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
324			min	.049	1	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
325		3	max	.05	2	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
326			min	.044	1	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
327		4	max	.047	2	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
328			min	.038	1	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
329		5	max	.044	2	-.009	2	0	1	0	1	0	1	0	1	0	1
330			min	.032	1	-.019	1	0	1	0	1	0	1	0	1	0	1
331	M34	1	max	-.019	1	.019	1	0	1	0	1	0	1	0	1	0	1
332			min	-.03	2	.009	2	0	1	0	1	0	1	0	1	0	1
333		2	max	-.025	1	.009	1	0	1	.158	1	-.075	2	.307	1	-.183	2
334			min	-.033	2	.004	2	0	1	.075	2	-.158	1	.145	2	-.386	1
335		3	max	-.031	1	0	1	0	1	.211	1	-.1	2	.41	1	-.243	2
336			min	-.035	2	0	1	0	1	.1	2	-.211	1	.194	2	-.515	1
337		4	max	-.036	1	-.004	2	0	1	.158	1	-.075	2	.307	1	-.183	2
338			min	-.038	2	-.009	1	0	1	.075	2	-.158	1	.145	2	-.386	1
339		5	max	-.041	2	-.009	2	0	1	0	1	0	1	0	1	0	1
340			min	-.042	1	-.019	1	0	1	0	1	0	1	0	1	0	1
341	M35	1	max	-.107	1	.004	1	0	2	0	1	0	1	0	1	0	1
342			min	-.126	2	0	2	0	1	0	1	0	1	0	1	0	1
343		2	max	-.107	1	-.005	2	0	2	-.005	1	.017	2	-.009	1	.042	2
344			min	-.126	2	-.005	1	0	1	-.017	2	.005	1	-.033	2	.011	1
345		3	max	.36	2	.015	1	0	2	-.063	2	.07	1	-.123	2	.172	1
346			min	.319	1	.009	2	0	1	-.07	1	.063	2	-.137	1	.155	2
347		4	max	.36	2	.005	1	0	2	-.005	1	.017	2	-.009	1	.042	2
348			min	.319	1	.005	2	0	1	-.017	2	.005	1	-.034	2	.011	1
349		5	max	.36	2	0	2	0	2	0	1	0	1	0	1	0	1
350			min	.319	1	-.004	1	0	1	0	1	0	1	0	1	0	1
351	M36	1	max	-.098	1	.004	1	0	1	0	1	0	1	0	1	0	1
352			min	-.116	2	0	2	0	2	0	1	0	1	0	1	0	1
353		2	max	-.098	1	-.005	2	0	1	-.004	1	.017	2	-.008	1	.041	2
354			min	-.116	2	-.005	1	0	2	-.017	2	.004	1	-.033	2	.011	1
355		3	max	.368	2	.015	1	0	1	-.063	2	.07	1	-.122	2	.17	1
356			min	.326	1	.009	2	0	2	-.07	1	.063	2	-.136	1	.153	2
357		4	max	.368	2	.005	1	0	1	-.004	1	.017	2	-.008	1	.041	2
358			min	.326	1	.005	2	0	2	-.017	2	.004	1	-.033	2	.011	1
359		5	max	.368	2	0	2	0	1	0	1	0	1	0	1	0	1
360			min	.326	1	-.004	1	0	2	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
361	M37	1	max	.024	1	.019	1	0	1	0	1	0	1	0	1	0	1
362			min	.023	2	.009	2	0	1	0	1	0	1	0	1	0	1
363		2	max	.022	2	.009	1	0	1	.115	1	-.054	2	.223	1	-.133	2
364			min	.021	1	.004	2	0	1	.054	2	-.115	1	.106	2	-.281	1
365		3	max	.02	2	0	1	0	1	.154	1	-.073	2	.298	1	-.177	2
366			min	.018	1	0	1	0	1	.073	2	-.154	1	.141	2	-.374	1
367		4	max	.019	2	-.004	2	0	1	.115	1	-.054	2	.223	1	-.133	2
368			min	.015	1	-.009	1	0	1	.054	2	-.115	1	.106	2	-.281	1
369		5	max	.017	2	-.009	2	0	1	0	1	0	1	0	1	0	1
370			min	.012	1	-.019	1	0	1	0	1	0	1	0	1	0	1
371	M38	1	max	-.012	1	.019	1	0	1	0	1	0	1	0	1	0	1
372			min	-.016	2	.009	2	0	1	0	1	0	1	0	1	0	1
373		2	max	-.015	1	.009	1	0	1	.115	1	-.054	2	.223	1	-.133	2
374			min	-.018	2	.004	2	0	1	.054	2	-.115	1	.106	2	-.281	1
375		3	max	-.018	1	0	1	0	1	.154	1	-.073	2	.298	1	-.177	2
376			min	-.019	2	0	1	0	1	.073	2	-.154	1	.141	2	-.374	1
377		4	max	-.021	2	-.004	2	0	1	.115	1	-.054	2	.223	1	-.133	2
378			min	-.021	1	-.009	1	0	1	.054	2	-.115	1	.106	2	-.281	1
379		5	max	-.022	2	-.009	2	0	1	0	1	0	1	0	1	0	1
380			min	-.024	1	-.019	1	0	1	0	1	0	1	0	1	0	1
381	M39	1	max	.516	2	.019	1	0	1	0	1	0	1	0	1	0	1
382			min	.445	1	.009	2	0	1	0	1	0	1	0	1	0	1
383		2	max	.515	2	.009	1	0	1	.115	1	-.054	2	.223	1	-.133	2
384			min	.442	1	.004	2	0	1	.054	2	-.115	1	.106	2	-.281	1
385		3	max	.513	2	0	1	0	1	.154	1	-.073	2	.298	1	-.177	2
386			min	.439	1	0	1	0	1	.073	2	-.154	1	.141	2	-.374	1
387		4	max	.512	2	-.004	2	0	1	.115	1	-.054	2	.223	1	-.133	2
388			min	.436	1	-.009	1	0	1	.054	2	-.115	1	.106	2	-.281	1
389		5	max	.51	2	-.009	2	0	1	0	1	0	1	0	1	0	1
390			min	.433	1	-.019	1	0	1	0	1	0	1	0	1	0	1
391	M40	1	max	-.338	1	.019	1	0	1	0	1	0	1	0	1	0	1
392			min	-.384	2	.009	2	0	1	0	1	0	1	0	1	0	1
393		2	max	-.341	1	.009	1	0	1	.115	1	-.054	2	.223	1	-.133	2
394			min	-.386	2	.004	2	0	1	.054	2	-.115	1	.106	2	-.281	1
395		3	max	-.344	1	0	1	0	1	.154	1	-.073	2	.298	1	-.177	2
396			min	-.387	2	0	1	0	1	.073	2	-.154	1	.141	2	-.374	1
397		4	max	-.347	1	-.004	2	0	1	.115	1	-.054	2	.223	1	-.133	2
398			min	-.389	2	-.009	1	0	1	.054	2	-.115	1	.106	2	-.281	1
399		5	max	-.351	1	-.009	2	0	1	0	1	0	1	0	1	0	1
400			min	-.39	2	-.019	1	0	1	0	1	0	1	0	1	0	1
401	M41	1	max	.023	1	.019	1	.087	2	0	1	0	1	0	1	0	1
402			min	.023	2	.009	2	.068	1	0	1	0	1	0	1	0	1
403		2	max	.021	2	.009	1	.043	2	-.304	1	.479	2	1.139	2	-1.302	1
404			min	.019	1	.004	2	.034	1	-.479	2	.304	1	1.036	1	-1.432	2
405		3	max	.02	2	0	1	0	1	-.405	1	.638	2	1.519	2	-1.735	1
406			min	.016	1	0	1	0	1	-.638	2	.405	1	1.381	1	-1.909	2
407		4	max	.018	2	-.004	2	-.034	1	-.304	1	.479	2	1.139	2	-1.302	1
408			min	.013	1	-.009	1	-.043	2	-.479	2	.304	1	1.036	1	-1.432	2
409		5	max	.017	2	-.009	2	-.068	1	0	1	0	1	0	1	0	1
410			min	.01	1	-.019	1	-.087	2	0	1	0	1	0	1	0	1
411	M42	1	max	-.02	1	.019	1	-.068	1	0	1	0	1	0	1	0	1
412			min	-.028	2	.009	2	-.087	2	0	1	0	1	0	1	0	1
413		2	max	-.023	1	.009	1	-.034	1	.587	2	-.534	1	-.589	1	1.167	2
414			min	-.029	2	.004	2	-.043	2	.534	1	-.587	2	-.928	2	.74	1
415		3	max	-.026	1	0	1	0	1	.783	2	-.712	1	-.785	1	1.555	2
416			min	-.031	2	0	1	0	1	.712	1	-.783	2	-1.238	2	.987	1
417		4	max	-.029	1	-.004	2	.043	2	.587	2	-.534	1	-.589	1	1.167	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
418			min	-.032	2	-.009	1	.034	1	.534	1	-.587	2	-.928	2	.74	1
419		5	max	-.033	1	-.009	2	.087	2	0	1	0	1	0	1	0	1
420			min	-.034	2	-.019	1	.068	1	0	1	0	1	0	1	0	1
421	M43	1	max	.512	2	.019	1	0	1	0	1	0	1	0	1	0	1
422			min	.442	1	.009	2	0	1	0	1	0	1	0	1	0	1
423		2	max	.51	2	.009	1	0	1	.115	1	-.054	2	.223	1	-.133	2
424			min	.439	1	.004	2	0	1	.054	2	-.115	1	.106	2	-.281	1
425		3	max	.509	2	0	1	0	1	.154	1	-.073	2	.298	1	-.177	2
426			min	.436	1	0	1	0	1	.073	2	-.154	1	.141	2	-.374	1
427		4	max	.507	2	-.004	2	0	1	.115	1	-.054	2	.223	1	-.133	2
428			min	.432	1	-.009	1	0	1	.054	2	-.115	1	.106	2	-.281	1
429		5	max	.506	2	-.009	2	0	1	0	1	0	1	0	1	0	1
430			min	.429	1	-.019	1	0	1	0	1	0	1	0	1	0	1
431	M44	1	max	-.341	1	.019	1	0	1	0	1	0	1	0	1	0	1
432			min	-.387	2	.009	2	0	1	0	1	0	1	0	1	0	1
433		2	max	-.344	1	.009	1	0	1	.115	1	-.054	2	.223	1	-.133	2
434			min	-.389	2	.004	2	0	1	.054	2	-.115	1	.106	2	-.281	1
435		3	max	-.347	1	0	1	0	1	.154	1	-.073	2	.298	1	-.177	2
436			min	-.39	2	0	1	0	1	.073	2	-.154	1	.141	2	-.374	1
437		4	max	-.35	1	-.004	2	0	1	.115	1	-.054	2	.223	1	-.133	2
438			min	-.392	2	-.009	1	0	1	.054	2	-.115	1	.106	2	-.281	1
439		5	max	-.354	1	-.009	2	0	1	0	1	0	1	0	1	0	1
440			min	-.393	2	-.019	1	0	1	0	1	0	1	0	1	0	1
441	M45	1	max	-3.378	1	.016	1	0	2	0	1	0	1	0	1	0	1
442			min	-3.898	2	.012	2	0	1	0	1	0	1	0	1	0	1
443		2	max	-3.378	1	.008	2	0	2	.075	1	-.066	2	.146	1	-.16	2
444			min	-3.898	2	.007	1	0	1	.066	2	-.075	1	.127	2	-.183	1
445		3	max	3.995	2	.003	1	0	2	.102	2	-.089	1	.198	2	-.217	1
446			min	3.468	1	-.003	2	0	1	.089	1	-.102	2	.172	1	-.249	2
447		4	max	3.995	2	-.007	1	0	2	.075	1	-.066	2	.146	1	-.16	2
448			min	3.468	1	-.008	2	0	1	.066	2	-.075	1	.127	2	-.183	1
449		5	max	3.995	2	-.012	2	0	2	0	1	0	1	0	1	0	1
450			min	3.468	1	-.016	1	0	1	0	1	0	1	0	1	0	1
451	M46	1	max	4.226	2	.012	1	0	2	0	1	0	1	0	1	0	1
452			min	3.711	1	.008	2	0	1	0	1	0	1	0	1	0	1
453		2	max	4.226	2	.003	2	0	2	.049	1	-.036	2	.095	1	-.089	2
454			min	3.699	1	.003	1	0	1	.036	2	-.049	1	.071	2	-.119	1
455		3	max	4.226	2	-.001	2	0	2	.044	2	-.036	1	.085	2	-.09	1
456			min	3.687	1	-.007	1	0	1	.036	1	-.044	2	.071	1	-.107	2
457		4	max	-3.241	1	-.003	1	0	2	.049	1	-.036	2	.095	1	-.088	2
458			min	-3.674	2	-.003	2	0	1	.036	2	-.049	1	.07	2	-.119	1
459		5	max	-3.253	1	-.008	2	0	2	0	1	0	1	0	1	0	1
460			min	-3.674	2	-.012	1	0	1	0	1	0	1	0	1	0	1
461	M47	1	max	3.659	2	-.002	1	0	1	0	1	0	1	0	1	0	1
462			min	3.128	1	-.006	2	0	2	0	1	0	1	0	1	0	1
463		2	max	3.659	2	-.011	2	0	1	-.046	1	.056	2	-.089	1	.137	2
464			min	3.128	1	-.012	1	0	2	-.056	2	.046	1	-.109	2	.112	1
465		3	max	-2.859	1	.021	1	0	1	-.142	2	.153	1	-.274	2	.373	1
466			min	-3.237	2	.015	2	0	2	-.153	1	.142	2	-.297	1	.344	2
467		4	max	-2.859	1	.012	1	0	1	-.046	1	.056	2	-.089	1	.137	2
468			min	-3.237	2	.011	2	0	2	-.056	2	.046	1	-.109	2	.112	1
469		5	max	-2.859	1	.006	2	0	1	0	1	0	1	0	1	0	1
470			min	-3.237	2	.002	1	0	2	0	1	0	1	0	1	0	1
471	M48	1	max	3.45	2	.004	1	0	2	0	1	0	1	0	1	0	1
472			min	2.987	1	0	2	0	1	0	1	0	1	0	1	0	1
473		2	max	3.45	2	-.003	2	0	2	-.004	1	.008	2	-.007	1	.019	2
474			min	2.987	1	-.005	1	0	1	-.008	2	.004	1	-.015	2	.009	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
475		3	max	-3.05	1	.015	1	0	2	-.045	2	.068	1	-.088	2	.169	1
476			min	-3.446	2	.008	2	0	1	-.068	1	.045	2	-.134	1	.111	2
477		4	max	-3.05	1	.005	1	0	2	-.004	1	.008	2	-.008	1	.02	2
478			min	-3.446	2	.003	2	0	1	-.008	2	.004	1	-.016	2	.01	1
479		5	max	-3.05	1	0	2	0	2	0	1	0	1	0	1	0	1
480			min	-3.446	2	-.004	1	0	1	0	1	0	1	0	1	0	1
481	M49	1	max	1.188	2	.019	1	.069	2	0	1	0	1	0	1	0	1
482			min	.983	1	.009	2	.054	1	0	1	0	1	0	1	0	1
483		2	max	1.188	2	.009	1	.035	2	-.174	1	.295	2	.742	2	-.873	1
484			min	.983	1	.004	2	.027	1	-.295	2	.174	1	.695	1	-.932	2
485		3	max	1.188	2	0	1	0	1	-.233	1	.394	2	.989	2	-1.164	1
486			min	.983	1	0	1	0	1	-.394	2	.233	1	.926	1	-1.243	2
487		4	max	1.188	2	-.004	2	-.027	1	-.174	1	.295	2	.742	2	-.873	1
488			min	.983	1	-.009	1	-.035	2	-.295	2	.174	1	.695	1	-.932	2
489		5	max	1.188	2	-.009	2	-.054	1	0	1	0	1	0	1	0	1
490			min	.983	1	-.019	1	-.069	2	0	1	0	1	0	1	0	1
491	M50	1	max	-1.243	1	.019	1	0	1	0	1	0	1	0	1	0	1
492			min	-1.35	2	.009	2	0	1	0	1	0	1	0	1	0	1
493		2	max	-1.243	1	.009	1	0	1	.092	1	-.043	2	.178	1	-.106	2
494			min	-1.35	2	.004	2	0	1	.043	2	-.092	1	.084	2	-.224	1
495		3	max	-1.243	1	0	1	0	1	.122	1	-.058	2	.237	1	-.141	2
496			min	-1.35	2	0	1	0	1	.058	2	-.122	1	.112	2	-.298	1
497		4	max	-1.243	1	-.004	2	0	1	.092	1	-.043	2	.178	1	-.106	2
498			min	-1.35	2	-.009	1	0	1	.043	2	-.092	1	.084	2	-.224	1
499		5	max	-1.243	1	-.009	2	0	1	0	1	0	1	0	1	0	1
500			min	-1.35	2	-.019	1	0	1	0	1	0	1	0	1	0	1
501	M51	1	max	1.921	2	.019	1	.069	2	0	1	0	1	0	1	0	1
502			min	1.591	1	.009	2	.054	1	0	1	0	1	0	1	0	1
503		2	max	1.921	2	.009	1	.035	2	-.174	1	.295	2	.742	2	-.873	1
504			min	1.591	1	.004	2	.027	1	-.295	2	.174	1	.695	1	-.932	2
505		3	max	1.921	2	0	1	0	1	-.233	1	.394	2	.989	2	-1.164	1
506			min	1.591	1	0	1	0	1	-.394	2	.233	1	.926	1	-1.243	2
507		4	max	1.921	2	-.004	2	-.027	1	-.174	1	.295	2	.742	2	-.873	1
508			min	1.591	1	-.009	1	-.035	2	-.295	2	.174	1	.695	1	-.932	2
509		5	max	1.921	2	-.009	2	-.054	1	0	1	0	1	0	1	0	1
510			min	1.591	1	-.019	1	-.069	2	0	1	0	1	0	1	0	1
511	M52	1	max	-2.006	1	.019	1	0	1	0	1	0	1	0	1	0	1
512			min	-2.176	2	.009	2	0	1	0	1	0	1	0	1	0	1
513		2	max	-2.006	1	.009	1	0	1	.092	1	-.043	2	.178	1	-.106	2
514			min	-2.176	2	.004	2	0	1	.043	2	-.092	1	.084	2	-.224	1
515		3	max	-2.006	1	0	1	0	1	.122	1	-.058	2	.237	1	-.141	2
516			min	-2.176	2	0	1	0	1	.058	2	-.122	1	.112	2	-.298	1
517		4	max	-2.006	1	-.004	2	0	1	.092	1	-.043	2	.178	1	-.106	2
518			min	-2.176	2	-.009	1	0	1	.043	2	-.092	1	.084	2	-.224	1
519		5	max	-2.006	1	-.009	2	0	1	0	1	0	1	0	1	0	1
520			min	-2.176	2	-.019	1	0	1	0	1	0	1	0	1	0	1
521	M53	1	max	-1.927	1	.019	1	.114	2	0	1	0	1	0	1	0	1
522			min	-2.335	2	.009	2	.09	1	0	1	0	1	0	1	0	1
523		2	max	-1.921	1	.009	1	.057	2	-.575	1	.853	2	1.933	2	-2.141	1
524			min	-2.332	2	.004	2	.045	1	-.853	2	.575	1	1.703	1	-2.429	2
525		3	max	-1.916	1	0	1	0	1	-.766	1	1.137	2	2.577	2	-2.854	1
526			min	-2.329	2	0	1	0	1	-1.137	2	.766	1	2.271	1	-3.238	2
527		4	max	-1.91	1	-.004	2	-.045	1	-.575	1	.853	2	1.933	2	-2.141	1
528			min	-2.327	2	-.009	1	-.057	2	-.853	2	.575	1	1.703	1	-2.429	2
529		5	max	-1.905	1	-.009	2	-.09	1	0	1	0	1	0	1	0	1
530			min	-2.324	2	-.019	1	-.114	2	0	1	0	1	0	1	0	1
531	M54	1	max	-2.473	1	.019	1	.114	2	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
532			min	-2.979	2	.009	2	0	1	0	1	0	1	0	1	0	1
533		2	max	-2.479	1	.009	1	.057	2	.152	1	.853	2	1.933	2	-.37	1
534			min	-2.981	2	.004	2	0	1	-.853	2	-.152	1	.294	1	-2.429	2
535		3	max	-2.484	1	0	1	0	1	.202	1	1.137	2	2.577	2	-.493	1
536			min	-2.984	2	0	1	0	1	-1.137	2	-.202	1	.392	1	-3.238	2
537		4	max	-2.49	1	-.004	2	0	1	.152	1	.853	2	1.933	2	-.37	1
538			min	-2.987	2	-.009	1	-.057	2	-.853	2	-.152	1	.294	1	-2.429	2
539		5	max	-2.495	1	-.009	2	0	1	0	1	0	1	0	1	0	1
540			min	-2.989	2	-.019	1	-.114	2	0	1	0	1	0	1	0	1
541	M55	1	max	.118	2	.019	1	.069	2	0	1	0	1	0	1	0	1
542			min	.098	1	.009	2	.054	1	0	1	0	1	0	1	0	1
543		2	max	.118	2	.009	1	.035	2	-.174	1	.295	2	.742	2	-.873	1
544			min	.098	1	.004	2	.027	1	-.295	2	.174	1	.695	1	-.932	2
545		3	max	.118	2	0	1	0	1	-.233	1	.394	2	.989	2	-1.164	1
546			min	.098	1	0	1	0	1	-.394	2	.233	1	.926	1	-1.243	2
547		4	max	.118	2	-.004	2	-.027	1	-.174	1	.295	2	.742	2	-.873	1
548			min	.098	1	-.009	1	-.035	2	-.295	2	.174	1	.695	1	-.932	2
549		5	max	.118	2	-.009	2	-.054	1	0	1	0	1	0	1	0	1
550			min	.098	1	-.019	1	-.069	2	0	1	0	1	0	1	0	1
551	M56	1	max	3.327	2	.019	1	0	1	0	1	0	1	0	1	0	1
552			min	3.044	1	.009	2	0	1	0	1	0	1	0	1	0	1
553		2	max	3.33	2	.009	1	0	1	.152	1	-.072	2	.294	1	-.175	2
554			min	3.05	1	.004	2	0	1	.072	2	-.152	1	.139	2	-.37	1
555		3	max	3.332	2	0	1	0	1	.202	1	-.096	2	.392	1	-.233	2
556			min	3.055	1	0	1	0	1	.096	2	-.202	1	.185	2	-.493	1
557		4	max	3.335	2	-.004	2	0	1	.152	1	-.072	2	.294	1	-.175	2
558			min	3.061	1	-.009	1	0	1	.072	2	-.152	1	.139	2	-.37	1
559		5	max	3.338	2	-.009	2	0	1	0	1	0	1	0	1	0	1
560			min	3.066	1	-.019	1	0	1	0	1	0	1	0	1	0	1
561	M57	1	max	2.687	2	.019	1	0	1	0	1	0	1	0	1	0	1
562			min	2.498	1	.009	2	0	1	0	1	0	1	0	1	0	1
563		2	max	2.685	2	.009	1	0	1	.152	1	-.072	2	.294	1	-.175	2
564			min	2.493	1	.004	2	0	1	.072	2	-.152	1	.139	2	-.37	1
565		3	max	2.682	2	0	1	0	1	.202	1	-.096	2	.392	1	-.233	2
566			min	2.487	1	0	1	0	1	.096	2	-.202	1	.185	2	-.493	1
567		4	max	2.679	2	-.004	2	0	1	.152	1	-.072	2	.294	1	-.175	2
568			min	2.482	1	-.009	1	0	1	.072	2	-.152	1	.139	2	-.37	1
569		5	max	2.677	2	-.009	2	0	1	0	1	0	1	0	1	0	1
570			min	2.476	1	-.019	1	0	1	0	1	0	1	0	1	0	1
571	M58	1	max	-.124	1	.019	1	0	1	0	1	0	1	0	1	0	1
572			min	-.135	2	.009	2	0	1	0	1	0	1	0	1	0	1
573		2	max	-.124	1	.009	1	0	1	.092	1	-.043	2	.178	1	-.106	2
574			min	-.135	2	.004	2	0	1	.043	2	-.092	1	.084	2	-.224	1
575		3	max	-.124	1	0	1	0	1	.122	1	-.058	2	.237	1	-.141	2
576			min	-.135	2	0	1	0	1	.058	2	-.122	1	.112	2	-.298	1
577		4	max	-.124	1	-.004	2	0	1	.092	1	-.043	2	.178	1	-.106	2
578			min	-.135	2	-.009	1	0	1	.043	2	-.092	1	.084	2	-.224	1
579		5	max	-.124	1	-.009	2	0	1	0	1	0	1	0	1	0	1
580			min	-.135	2	-.019	1	0	1	0	1	0	1	0	1	0	1
581	M59	1	max	-2.834	1	.019	1	0	1	0	1	0	1	0	1	0	1
582			min	-3.265	2	.009	2	0	1	0	1	0	1	0	1	0	1
583		2	max	-2.838	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
584			min	-3.268	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
585		3	max	-2.843	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
586			min	-3.27	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
587		4	max	-2.848	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
588			min	-3.272	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
589		5	max	-2.853	1	-.009	2	0	1	0	1	0	1	0	1	0	1
590			min	-3.274	2	-.019	1	0	1	0	1	0	1	0	1	0	1
591	M60	1	max	3.376	2	.019	1	0	1	0	1	0	1	0	1	0	1
592			min	2.986	1	.009	2	0	1	0	1	0	1	0	1	0	1
593		2	max	3.378	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
594			min	2.991	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
595		3	max	3.38	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
596			min	2.995	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
597		4	max	3.383	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
598			min	3	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
599		5	max	3.385	2	-.009	2	0	1	0	1	0	1	0	1	0	1
600			min	3.005	1	-.019	1	0	1	0	1	0	1	0	1	0	1
601	M61	1	max	-.491	1	.019	1	-.083	1	0	1	0	1	0	1	0	1
602			min	-.585	2	.009	2	-.105	2	0	1	0	1	0	1	0	1
603		2	max	-.495	1	.009	1	-.041	1	.857	2	-.761	1	-.933	1	1.766	2
604			min	-.587	2	.004	2	-.053	2	.761	1	-.857	2	-1.405	2	1.172	1
605		3	max	-.5	1	0	1	0	1	1.143	2	-1.015	1	-1.244	1	2.354	2
606			min	-.589	2	0	1	0	1	1.015	1	-1.143	2	-1.874	2	1.563	1
607		4	max	-.505	1	-.004	2	.053	2	.857	2	-.761	1	-.933	1	1.766	2
608			min	-.592	2	-.009	1	.041	1	.761	1	-.857	2	-1.405	2	1.172	1
609		5	max	-.51	1	-.009	2	.105	2	0	1	0	1	0	1	0	1
610			min	-.594	2	-.019	1	.083	1	0	1	0	1	0	1	0	1
611	M62	1	max	-.181	1	.019	1	.105	2	0	1	0	1	0	1	0	1
612			min	-.241	2	.009	2	.083	1	0	1	0	1	0	1	0	1
613		2	max	-.185	1	.009	1	.053	2	-.481	1	.724	2	1.662	2	-1.856	1
614			min	-.243	2	.004	2	.041	1	-.724	2	.481	1	1.477	1	-2.089	2
615		3	max	-.19	1	0	1	0	1	-.641	1	.966	2	2.216	2	-2.475	1
616			min	-.245	2	0	1	0	1	-.966	2	.641	1	1.97	1	-2.785	2
617		4	max	-.195	1	-.004	2	-.041	1	-.481	1	.724	2	1.662	2	-1.856	1
618			min	-.248	2	-.009	1	-.053	2	-.724	2	.481	1	1.477	1	-2.089	2
619		5	max	-.2	1	-.009	2	-.083	1	0	1	0	1	0	1	0	1
620			min	-.25	2	-.019	1	-.105	2	0	1	0	1	0	1	0	1
621	M63	1	max	-2.653	1	.019	1	0	1	0	1	0	1	0	1	0	1
622			min	-3.07	2	.009	2	0	1	0	1	0	1	0	1	0	1
623		2	max	-2.658	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
624			min	-3.072	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
625		3	max	-2.662	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
626			min	-3.075	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
627		4	max	-2.667	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
628			min	-3.077	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
629		5	max	-2.672	1	-.009	2	0	1	0	1	0	1	0	1	0	1
630			min	-3.079	2	-.019	1	0	1	0	1	0	1	0	1	0	1
631	M64	1	max	3.558	2	.019	1	0	1	0	1	0	1	0	1	0	1
632			min	3.14	1	.009	2	0	1	0	1	0	1	0	1	0	1
633		2	max	3.56	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
634			min	3.145	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
635		3	max	3.562	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
636			min	3.15	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
637		4	max	3.565	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
638			min	3.154	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
639		5	max	3.567	2	-.009	2	0	1	0	1	0	1	0	1	0	1
640			min	3.159	1	-.019	1	0	1	0	1	0	1	0	1	0	1
641	M65	1	max	.645	2	.019	1	0	1	0	1	0	1	0	1	0	1
642			min	.588	1	.009	2	0	1	0	1	0	1	0	1	0	1
643		2	max	.643	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
644			min	.583	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
645		3	max	.641	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
646			min	.578	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
647		4	max	.638	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
648			min	.573	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
649		5	max	.636	2	-.009	2	0	1	0	1	0	1	0	1	0	1
650			min	.569	1	-.019	1	0	1	0	1	0	1	0	1	0	1
651	M66	1	max	.314	2	.019	1	0	1	0	1	0	1	0	1	0	1
652			min	.31	1	.009	2	0	1	0	1	0	1	0	1	0	1
653		2	max	.311	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
654			min	.305	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
655		3	max	.309	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
656			min	.3	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
657		4	max	.307	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
658			min	.296	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
659		5	max	.305	2	-.009	2	0	1	0	1	0	1	0	1	0	1
660			min	.291	1	-.019	1	0	1	0	1	0	1	0	1	0	1
661	M67	1	max	.206	2	.019	1	.105	2	0	1	0	1	0	1	0	1
662			min	.173	1	.009	2	.083	1	0	1	0	1	0	1	0	1
663		2	max	.204	2	.009	1	.053	2	-.481	1	.724	2	1.662	2	-1.856	1
664			min	.168	1	.004	2	.041	1	-.724	2	.481	1	1.477	1	-2.089	2
665		3	max	.201	2	0	1	0	1	-.641	1	.966	2	2.216	2	-2.475	1
666			min	.163	1	0	1	0	1	-.966	2	.641	1	1.97	1	-2.785	2
667		4	max	.199	2	-.004	2	-.041	1	-.481	1	.724	2	1.662	2	-1.856	1
668			min	.158	1	-.009	1	-.053	2	-.724	2	.481	1	1.477	1	-2.089	2
669		5	max	.197	2	-.009	2	-.083	1	0	1	0	1	0	1	0	1
670			min	.153	1	-.019	1	-.105	2	0	1	0	1	0	1	0	1
671	M68	1	max	.294	2	.019	1	.105	2	0	1	0	1	0	1	0	1
672			min	.241	1	.009	2	.083	1	0	1	0	1	0	1	0	1
673		2	max	.296	2	.009	1	.053	2	-.481	1	.724	2	1.662	2	-1.856	1
674			min	.245	1	.004	2	.041	1	-.724	2	.481	1	1.477	1	-2.089	2
675		3	max	.299	2	0	1	0	1	-.641	1	.966	2	2.216	2	-2.475	1
676			min	.25	1	0	1	0	1	-.966	2	.641	1	1.97	1	-2.785	2
677		4	max	.301	2	-.004	2	-.041	1	-.481	1	.724	2	1.662	2	-1.856	1
678			min	.255	1	-.009	1	-.053	2	-.724	2	.481	1	1.477	1	-2.089	2
679		5	max	.303	2	-.009	2	-.083	1	0	1	0	1	0	1	0	1
680			min	.26	1	-.019	1	-.105	2	0	1	0	1	0	1	0	1
681	M69	1	max	-2.501	1	.019	1	0	1	0	1	0	1	0	1	0	1
682			min	-2.837	2	.009	2	0	1	0	1	0	1	0	1	0	1
683		2	max	-2.506	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
684			min	-2.84	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
685		3	max	-2.511	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
686			min	-2.842	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
687		4	max	-2.516	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
688			min	-2.844	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
689		5	max	-2.52	1	-.009	2	0	1	0	1	0	1	0	1	0	1
690			min	-2.846	2	-.019	1	0	1	0	1	0	1	0	1	0	1
691	M70	1	max	3.101	2	.019	1	0	1	0	1	0	1	0	1	0	1
692			min	2.699	1	.009	2	0	1	0	1	0	1	0	1	0	1
693		2	max	3.103	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
694			min	2.704	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
695		3	max	3.106	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
696			min	2.709	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
697		4	max	3.108	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
698			min	2.714	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
699		5	max	3.11	2	-.009	2	0	1	0	1	0	1	0	1	0	1
700			min	2.719	1	-.019	1	0	1	0	1	0	1	0	1	0	1
701	M71	1	max	-2.534	1	.019	1	0	1	0	1	0	1	0	1	0	1
702			min	-2.872	2	.009	2	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
703		2	max	-2.539	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
704			min	-2.875	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
705		3	max	-2.544	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
706			min	-2.877	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
707		4	max	-2.549	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
708			min	-2.879	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
709		5	max	-2.553	1	-.009	2	0	1	0	1	0	1	0	1	0	1
710			min	-2.881	2	-.019	1	0	1	0	1	0	1	0	1	0	1
711	M72	1	max	3.079	2	.019	1	0	1	0	1	0	1	0	1	0	1
712			min	2.68	1	.009	2	0	1	0	1	0	1	0	1	0	1
713		2	max	3.081	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
714			min	2.685	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
715		3	max	3.083	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
716			min	2.69	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
717		4	max	3.086	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
718			min	2.695	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
719		5	max	3.088	2	-.009	2	0	1	0	1	0	1	0	1	0	1
720			min	2.699	1	-.019	1	0	1	0	1	0	1	0	1	0	1
721	M73	1	max	-.289	1	.019	1	0	1	0	1	0	1	0	1	0	1
722			min	-.322	2	.009	2	0	1	0	1	0	1	0	1	0	1
723		2	max	-.293	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
724			min	-.324	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
725		3	max	-.298	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
726			min	-.326	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
727		4	max	-.303	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
728			min	-.329	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
729		5	max	-.308	1	-.009	2	0	1	0	1	0	1	0	1	0	1
730			min	-.331	2	-.019	1	0	1	0	1	0	1	0	1	0	1
731	M74	1	max	-.235	1	.019	1	0	1	0	1	0	1	0	1	0	1
732			min	-.245	2	.009	2	0	1	0	1	0	1	0	1	0	1
733		2	max	-.23	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
734			min	-.242	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
735		3	max	-.225	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
736			min	-.24	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
737		4	max	-.221	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
738			min	-.238	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
739		5	max	-.216	1	-.009	2	0	1	0	1	0	1	0	1	0	1
740			min	-.235	2	-.019	1	0	1	0	1	0	1	0	1	0	1
741	M75	1	max	-2.301	1	.019	1	0	1	0	1	0	1	0	1	0	1
742			min	-2.635	2	.009	2	0	1	0	1	0	1	0	1	0	1
743		2	max	-2.305	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
744			min	-2.637	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
745		3	max	-2.31	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
746			min	-2.639	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
747		4	max	-2.315	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
748			min	-2.641	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
749		5	max	-2.32	1	-.009	2	0	1	0	1	0	1	0	1	0	1
750			min	-2.644	2	-.019	1	0	1	0	1	0	1	0	1	0	1
751	M76	1	max	2.848	2	.019	1	0	1	0	1	0	1	0	1	0	1
752			min	2.499	1	.009	2	0	1	0	1	0	1	0	1	0	1
753		2	max	2.851	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
754			min	2.504	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
755		3	max	2.853	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
756			min	2.509	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
757		4	max	2.855	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
758			min	2.513	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
759		5	max	2.857	2	-.009	2	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
760			min	2.518	1	-.019	1	0	1	0	1	0	1	0	1	0	1
761	M77	1	max	.118	2	.019	1	0	1	0	1	0	1	0	1	0	1
762			min	.111	1	.009	2	0	1	0	1	0	1	0	1	0	1
763		2	max	.116	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
764			min	.106	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
765		3	max	.113	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
766			min	.101	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
767		4	max	.111	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
768			min	.097	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
769		5	max	.109	2	-.009	2	0	1	0	1	0	1	0	1	0	1
770			min	.092	1	-.019	1	0	1	0	1	0	1	0	1	0	1
771	M78	1	max	.127	2	.019	1	0	1	0	1	0	1	0	1	0	1
772			min	.115	1	.009	2	0	1	0	1	0	1	0	1	0	1
773		2	max	.129	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
774			min	.12	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
775		3	max	.132	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
776			min	.125	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
777		4	max	.134	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
778			min	.13	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
779		5	max	.136	2	-.009	2	0	1	0	1	0	1	0	1	0	1
780			min	.134	1	-.019	1	0	1	0	1	0	1	0	1	0	1
781	M79	1	max	2.922	2	.019	1	0	1	0	1	0	1	0	1	0	1
782			min	2.571	1	.009	2	0	1	0	1	0	1	0	1	0	1
783		2	max	2.925	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
784			min	2.575	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
785		3	max	2.927	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
786			min	2.58	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
787		4	max	2.929	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
788			min	2.585	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
789		5	max	2.931	2	-.009	2	0	1	0	1	0	1	0	1	0	1
790			min	2.59	1	-.019	1	0	1	0	1	0	1	0	1	0	1
791	M80	1	max	-2.249	1	.019	1	0	1	0	1	0	1	0	1	0	1
792			min	-2.568	2	.009	2	0	1	0	1	0	1	0	1	0	1
793		2	max	-2.254	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
794			min	-2.57	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
795		3	max	-2.259	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
796			min	-2.573	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
797		4	max	-2.263	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
798			min	-2.575	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
799		5	max	-2.268	1	-.009	2	0	1	0	1	0	1	0	1	0	1
800			min	-2.577	2	-.019	1	0	1	0	1	0	1	0	1	0	1
801	M81	1	max	-.083	1	.019	1	.105	2	0	1	0	1	0	1	0	1
802			min	-.111	2	.009	2	.083	1	0	1	0	1	0	1	0	1
803		2	max	-.087	1	.009	1	.053	2	-.481	1	.724	2	1.662	2	-1.856	1
804			min	-.113	2	.004	2	.041	1	-.724	2	.481	1	1.477	1	-2.089	2
805		3	max	-.092	1	0	1	0	1	-.641	1	.966	2	2.216	2	-2.475	1
806			min	-.115	2	0	1	0	1	-.966	2	.641	1	1.97	1	-2.785	2
807		4	max	-.097	1	-.004	2	-.041	1	-.481	1	.724	2	1.662	2	-1.856	1
808			min	-.117	2	-.009	1	-.053	2	-.724	2	.481	1	1.477	1	-2.089	2
809		5	max	-.102	1	-.009	2	-.083	1	0	1	0	1	0	1	0	1
810			min	-.12	2	-.019	1	-.105	2	0	1	0	1	0	1	0	1
811	M82	1	max	-.097	1	.019	1	.105	2	0	1	0	1	0	1	0	1
812			min	-.106	2	.009	2	.083	1	0	1	0	1	0	1	0	1
813		2	max	-.092	1	.009	1	.053	2	-.481	1	.724	2	1.662	2	-1.856	1
814			min	-.104	2	.004	2	.041	1	-.724	2	.481	1	1.477	1	-2.089	2
815		3	max	-.087	1	0	1	0	1	-.641	1	.966	2	2.216	2	-2.475	1
816			min	-.102	2	0	1	0	1	-.966	2	.641	1	1.97	1	-2.785	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
817		4	max	-.083	1	-.004	2	-.041	1	-.481	1	.724	2	1.662	2	-1.856	1
818			min	-.1	2	-.009	1	-.053	2	-.724	2	.481	1	1.477	1	-2.089	2
819		5	max	-.078	1	-.009	2	-.083	1	0	1	0	1	0	1	0	1
820			min	-.097	2	-.019	1	-.105	2	0	1	0	1	0	1	0	1
821	M83	1	max	.021	2	.019	1	.105	2	0	1	0	1	0	1	0	1
822			min	.009	1	.009	2	.083	1	0	1	0	1	0	1	0	1
823		2	max	.024	2	.009	1	.053	2	-.481	1	.724	2	1.662	2	-1.856	1
824			min	.013	1	.004	2	.041	1	-.724	2	.481	1	1.477	1	-2.089	2
825		3	max	.026	2	0	1	0	1	-.641	1	.966	2	2.216	2	-2.475	1
826			min	.018	1	0	1	0	1	-.966	2	.641	1	1.97	1	-2.785	2
827		4	max	.028	2	-.004	2	-.041	1	-.481	1	.724	2	1.662	2	-1.856	1
828			min	.023	1	-.009	1	-.053	2	-.724	2	.481	1	1.477	1	-2.089	2
829		5	max	.03	2	-.009	2	-.083	1	0	1	0	1	0	1	0	1
830			min	.028	1	-.019	1	-.105	2	0	1	0	1	0	1	0	1
831	M84	1	max	.037	1	.019	1	.105	2	0	1	0	1	0	1	0	1
832			min	.037	2	.009	2	.083	1	0	1	0	1	0	1	0	1
833		2	max	.035	2	.009	1	.053	2	-.481	1	.724	2	1.662	2	-1.856	1
834			min	.033	1	.004	2	.041	1	-.724	2	.481	1	1.477	1	-2.089	2
835		3	max	.032	2	0	1	0	1	-.641	1	.966	2	2.216	2	-2.475	1
836			min	.028	1	0	1	0	1	-.966	2	.641	1	1.97	1	-2.785	2
837		4	max	.03	2	-.004	2	-.041	1	-.481	1	.724	2	1.662	2	-1.856	1
838			min	.023	1	-.009	1	-.053	2	-.724	2	.481	1	1.477	1	-2.089	2
839		5	max	.028	2	-.009	2	-.083	1	0	1	0	1	0	1	0	1
840			min	.018	1	-.019	1	-.105	2	0	1	0	1	0	1	0	1
841	M85	1	max	-1.924	1	.019	1	0	1	0	1	0	1	0	1	0	1
842			min	-2.191	2	.009	2	0	1	0	1	0	1	0	1	0	1
843		2	max	-1.929	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
844			min	-2.193	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
845		3	max	-1.933	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
846			min	-2.195	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
847		4	max	-1.938	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
848			min	-2.198	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
849		5	max	-1.943	1	-.009	2	0	1	0	1	0	1	0	1	0	1
850			min	-2.2	2	-.019	1	0	1	0	1	0	1	0	1	0	1
851	M86	1	max	2.539	2	.019	1	0	1	0	1	0	1	0	1	0	1
852			min	2.222	1	.009	2	0	1	0	1	0	1	0	1	0	1
853		2	max	2.541	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
854			min	2.226	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
855		3	max	2.544	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
856			min	2.231	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
857		4	max	2.546	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
858			min	2.236	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
859		5	max	2.548	2	-.009	2	0	1	0	1	0	1	0	1	0	1
860			min	2.241	1	-.019	1	0	1	0	1	0	1	0	1	0	1
861	M87	1	max	-.024	1	.019	1	0	1	0	1	0	1	0	1	0	1
862			min	-.029	2	.009	2	0	1	0	1	0	1	0	1	0	1
863		2	max	-.029	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
864			min	-.032	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
865		3	max	-.034	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
866			min	-.034	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
867		4	max	-.036	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
868			min	-.039	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
869		5	max	-.038	2	-.009	2	0	1	0	1	0	1	0	1	0	1
870			min	-.043	1	-.019	1	0	1	0	1	0	1	0	1	0	1
871	M88	1	max	-.044	2	.019	1	0	1	0	1	0	1	0	1	0	1
872			min	-.045	1	.009	2	0	1	0	1	0	1	0	1	0	1
873		2	max	-.04	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
874			min	-.042	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
875		3	max	-.035	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
876			min	-.039	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
877		4	max	-.03	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
878			min	-.037	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
879		5	max	-.026	1	-.009	2	0	1	0	1	0	1	0	1	0	1
880			min	-.035	2	-.019	1	0	1	0	1	0	1	0	1	0	1
881	M89	1	max	-2.013	1	.019	1	0	1	0	1	0	1	0	1	0	1
882			min	-2.288	2	.009	2	0	1	0	1	0	1	0	1	0	1
883		2	max	-2.018	1	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
884			min	-2.29	2	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
885		3	max	-2.022	1	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
886			min	-2.292	2	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
887		4	max	-2.027	1	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
888			min	-2.295	2	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
889		5	max	-2.032	1	-.009	2	0	1	0	1	0	1	0	1	0	1
890			min	-2.297	2	-.019	1	0	1	0	1	0	1	0	1	0	1
891	M90	1	max	2.443	2	.019	1	0	1	0	1	0	1	0	1	0	1
892			min	2.141	1	.009	2	0	1	0	1	0	1	0	1	0	1
893		2	max	2.446	2	.009	1	0	1	.14	1	-.066	2	.272	1	-.162	2
894			min	2.146	1	.004	2	0	1	.066	2	-.14	1	.129	2	-.342	1
895		3	max	2.448	2	0	1	0	1	.187	1	-.088	2	.363	1	-.216	2
896			min	2.151	1	0	1	0	1	.088	2	-.187	1	.171	2	-.456	1
897		4	max	2.45	2	-.004	2	0	1	.14	1	-.066	2	.272	1	-.162	2
898			min	2.156	1	-.009	1	0	1	.066	2	-.14	1	.129	2	-.342	1
899		5	max	2.452	2	-.009	2	0	1	0	1	0	1	0	1	0	1
900			min	2.16	1	-.019	1	0	1	0	1	0	1	0	1	0	1
901	M91	1	max	.002	1	.019	1	.095	2	0	1	0	1	0	1	0	1
902			min	-.007	2	.009	2	.074	1	0	1	0	1	0	1	0	1
903		2	max	-.001	1	.009	1	.047	2	-.375	1	.578	2	1.352	2	-1.528	1
904			min	-.009	2	.004	2	.037	1	-.578	2	.375	1	1.216	1	-1.699	2
905		3	max	-.005	1	0	1	0	1	-.5	1	.77	2	1.802	2	-2.037	1
906			min	-.011	2	0	1	0	1	-.77	2	.5	1	1.621	1	-2.265	2
907		4	max	-.009	1	-.004	2	-.037	1	-.375	1	.578	2	1.352	2	-1.528	1
908			min	-.012	2	-.009	1	-.047	2	-.578	2	.375	1	1.216	1	-1.699	2
909		5	max	-.013	1	-.009	2	-.074	1	0	1	0	1	0	1	0	1
910			min	-.014	2	-.019	1	-.095	2	0	1	0	1	0	1	0	1
911	M92	1	max	.019	2	.019	1	.095	2	0	1	0	1	0	1	0	1
912			min	.012	1	.009	2	.074	1	0	1	0	1	0	1	0	1
913		2	max	.02	2	.009	1	.047	2	-.375	1	.578	2	1.352	2	-1.528	1
914			min	.016	1	.004	2	.037	1	-.578	2	.375	1	1.216	1	-1.699	2
915		3	max	.022	2	0	1	0	1	-.5	1	.77	2	1.802	2	-2.037	1
916			min	.02	1	0	1	0	1	-.77	2	.5	1	1.621	1	-2.265	2
917		4	max	.024	2	-.004	2	-.037	1	-.375	1	.578	2	1.352	2	-1.528	1
918			min	.024	1	-.009	1	-.047	2	-.578	2	.375	1	1.216	1	-1.699	2
919		5	max	.028	1	-.009	2	-.074	1	0	1	0	1	0	1	0	1
920			min	.026	2	-.019	1	-.095	2	0	1	0	1	0	1	0	1
921	M93	1	max	-2.11	1	.019	1	0	1	0	1	0	1	0	1	0	1
922			min	-2.404	2	.009	2	0	1	0	1	0	1	0	1	0	1
923		2	max	-2.114	1	.009	1	0	1	.126	1	-.06	2	.244	1	-.145	2
924			min	-2.406	2	.004	2	0	1	.06	2	-.126	1	.115	2	-.307	1
925		3	max	-2.118	1	0	1	0	1	.168	1	-.079	2	.326	1	-.193	2
926			min	-2.408	2	0	1	0	1	.079	2	-.168	1	.154	2	-.409	1
927		4	max	-2.122	1	-.004	2	0	1	.126	1	-.06	2	.244	1	-.145	2
928			min	-2.41	2	-.009	1	0	1	.06	2	-.126	1	.115	2	-.307	1
929		5	max	-2.126	1	-.009	2	0	1	0	1	0	1	0	1	0	1
930			min	-2.411	2	-.019	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
931	M94	1	max	2.568	2	.019	1	0	1	0	1	0	1	0	1	0	1
932			min	2.257	1	.009	2	0	1	0	1	0	1	0	1	0	1
933		2	max	2.57	2	.009	1	0	1	.126	1	-.06	2	.244	1	-.145	2
934			min	2.261	1	.004	2	0	1	.06	2	-.126	1	.115	2	-.307	1
935		3	max	2.572	2	0	1	0	1	.168	1	-.079	2	.326	1	-.193	2
936			min	2.265	1	0	1	0	1	.079	2	-.168	1	.154	2	-.409	1
937		4	max	2.574	2	-.004	2	0	1	.126	1	-.06	2	.244	1	-.145	2
938			min	2.269	1	-.009	1	0	1	.06	2	-.126	1	.115	2	-.307	1
939		5	max	2.576	2	-.009	2	0	1	0	1	0	1	0	1	0	1
940			min	2.273	1	-.019	1	0	1	0	1	0	1	0	1	0	1
941	M95	1	max	.013	2	.019	1	0	1	0	1	0	1	0	1	0	1
942			min	.011	1	.009	2	0	1	0	1	0	1	0	1	0	1
943		2	max	.015	2	.009	1	0	1	.126	1	-.06	2	.244	1	-.145	2
944			min	.015	1	.004	2	0	1	.06	2	-.126	1	.115	2	-.307	1
945		3	max	.019	1	0	1	0	1	.168	1	-.079	2	.326	1	-.193	2
946			min	.017	2	0	1	0	1	.079	2	-.168	1	.154	2	-.409	1
947		4	max	.023	1	-.004	2	0	1	.126	1	-.06	2	.244	1	-.145	2
948			min	.019	2	-.009	1	0	1	.06	2	-.126	1	.115	2	-.307	1
949		5	max	.026	1	-.009	2	0	1	0	1	0	1	0	1	0	1
950			min	.02	2	-.019	1	0	1	0	1	0	1	0	1	0	1
951	M96	1	max	-.006	1	.019	1	0	1	0	1	0	1	0	1	0	1
952			min	-.012	2	.009	2	0	1	0	1	0	1	0	1	0	1
953		2	max	-.01	1	.009	1	0	1	.126	1	-.06	2	.244	1	-.145	2
954			min	-.013	2	.004	2	0	1	.06	2	-.126	1	.115	2	-.307	1
955		3	max	-.014	1	0	1	0	1	.168	1	-.079	2	.326	1	-.193	2
956			min	-.015	2	0	1	0	1	.079	2	-.168	1	.154	2	-.409	1
957		4	max	-.017	2	-.004	2	0	1	.126	1	-.06	2	.244	1	-.145	2
958			min	-.017	1	-.009	1	0	1	.06	2	-.126	1	.115	2	-.307	1
959		5	max	-.019	2	-.009	2	0	1	0	1	0	1	0	1	0	1
960			min	-.021	1	-.019	1	0	1	0	1	0	1	0	1	0	1
961	M97	1	max	-2.05	1	.019	1	0	1	0	1	0	1	0	1	0	1
962			min	-2.331	2	.009	2	0	1	0	1	0	1	0	1	0	1
963		2	max	-2.054	1	.009	1	0	1	.126	1	-.06	2	.244	1	-.145	2
964			min	-2.333	2	.004	2	0	1	.06	2	-.126	1	.115	2	-.307	1
965		3	max	-2.058	1	0	1	0	1	.168	1	-.079	2	.326	1	-.193	2
966			min	-2.335	2	0	1	0	1	.079	2	-.168	1	.154	2	-.409	1
967		4	max	-2.062	1	-.004	2	0	1	.126	1	-.06	2	.244	1	-.145	2
968			min	-2.337	2	-.009	1	0	1	.06	2	-.126	1	.115	2	-.307	1
969		5	max	-2.066	1	-.009	2	0	1	0	1	0	1	0	1	0	1
970			min	-2.338	2	-.019	1	0	1	0	1	0	1	0	1	0	1
971	M98	1	max	2.64	2	.019	1	0	1	0	1	0	1	0	1	0	1
972			min	2.324	1	.009	2	0	1	0	1	0	1	0	1	0	1
973		2	max	2.642	2	.009	1	0	1	.126	1	-.06	2	.244	1	-.145	2
974			min	2.328	1	.004	2	0	1	.06	2	-.126	1	.115	2	-.307	1
975		3	max	2.644	2	0	1	0	1	.168	1	-.079	2	.326	1	-.193	2
976			min	2.332	1	0	1	0	1	.079	2	-.168	1	.154	2	-.409	1
977		4	max	2.646	2	-.004	2	0	1	.126	1	-.06	2	.244	1	-.145	2
978			min	2.336	1	-.009	1	0	1	.06	2	-.126	1	.115	2	-.307	1
979		5	max	2.647	2	-.009	2	0	1	0	1	0	1	0	1	0	1
980			min	2.34	1	-.019	1	0	1	0	1	0	1	0	1	0	1
981	M99	1	max	0	2	.01	1	.012	2	0	1	0	1	0	1	0	1
982			min	0	1	.008	2	.01	1	0	1	0	1	0	1	0	1
983		2	max	0	2	.005	1	.006	2	.014	1	-.011	2	.171	2	-.049	1
984			min	0	1	.004	2	.005	1	.011	2	-.014	1	.135	1	-.062	2
985		3	max	0	2	0	1	0	1	.019	1	-.015	2	.228	2	-.065	1
986			min	0	1	0	1	0	1	.015	2	-.019	1	.179	1	-.083	2
987		4	max	0	2	-.004	2	-.005	1	.014	1	-.011	2	.171	2	-.049	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
988			min	0	1	-.005	1	-.006	2	.011	2	-.014	1	.135	1	-.062	2
989		5	max	0	2	-.008	2	-.01	1	0	1	0	1	0	1	0	1
990			min	0	1	-.01	1	-.012	2	0	1	0	1	0	1	0	1
991	M100	1	max	0	1	.01	1	0	1	0	1	0	1	0	1	0	1
992			min	0	1	.008	2	0	1	0	1	0	1	0	1	0	1
993		2	max	0	1	.005	1	0	1	.014	1	-.011	2	0	1	0	1
994			min	0	1	.004	2	0	1	.011	2	-.014	1	0	1	0	1
995		3	max	0	1	0	1	0	1	.019	1	-.015	2	0	1	0	1
996			min	0	1	0	1	0	1	.015	2	-.019	1	0	1	0	1
997		4	max	0	1	-.004	2	0	1	.014	1	-.011	2	0	1	0	1
998			min	0	1	-.005	1	0	1	.011	2	-.014	1	0	1	0	1
999		5	max	0	1	-.008	2	0	1	0	1	0	1	0	1	0	1
1000			min	0	1	-.01	1	0	1	0	1	0	1	0	1	0	1
1001	M101	1	max	0	1	.01	1	0	1	0	1	0	1	0	1	0	1
1002			min	0	2	.008	2	0	1	0	1	0	1	0	1	0	1
1003		2	max	0	1	.005	1	0	1	.014	1	-.011	2	0	1	0	1
1004			min	0	2	.004	2	0	1	.011	2	-.014	1	0	1	0	1
1005		3	max	0	1	0	1	0	1	.019	1	-.015	2	0	1	0	1
1006			min	0	2	0	1	0	1	.015	2	-.019	1	0	1	0	1
1007		4	max	0	1	-.004	2	0	1	.014	1	-.011	2	0	1	0	1
1008			min	0	2	-.005	1	0	1	.011	2	-.014	1	0	1	0	1
1009		5	max	0	1	-.008	2	0	1	0	1	0	1	0	1	0	1
1010			min	0	2	-.01	1	0	1	0	1	0	1	0	1	0	1
1011	M102	1	max	0	1	.01	1	0	1	0	1	0	1	0	1	0	1
1012			min	0	1	.008	2	0	1	0	1	0	1	0	1	0	1
1013		2	max	0	1	.005	1	0	1	.014	1	-.011	2	0	1	0	1
1014			min	0	1	.004	2	0	1	.011	2	-.014	1	0	1	0	1
1015		3	max	0	1	0	1	0	1	.019	1	-.015	2	0	1	0	1
1016			min	0	1	0	1	0	1	.015	2	-.019	1	0	1	0	1
1017		4	max	0	1	-.004	2	0	1	.014	1	-.011	2	0	1	0	1
1018			min	0	1	-.005	1	0	1	.011	2	-.014	1	0	1	0	1
1019		5	max	0	1	-.008	2	0	1	0	1	0	1	0	1	0	1
1020			min	0	1	-.01	1	0	1	0	1	0	1	0	1	0	1
1021	M103	1	max	-.221	1	.009	1	0	1	0	1	0	1	0	1	0	1
1022			min	-.242	2	.004	2	0	1	0	1	0	1	0	1	0	1
1023		2	max	-.219	1	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1024			min	-.241	2	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1025		3	max	-.218	1	0	1	0	1	.04	1	-.019	2	.078	1	-.047	2
1026			min	-.24	2	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1027		4	max	-.216	1	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1028			min	-.239	2	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1029		5	max	-.214	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1030			min	-.238	2	-.009	1	0	1	0	1	0	1	0	1	0	1
1031	M104	1	max	.231	2	.009	1	0	1	0	1	0	1	0	1	0	1
1032			min	.193	1	.004	2	0	1	0	1	0	1	0	1	0	1
1033		2	max	.23	2	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1034			min	.191	1	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1035		3	max	.23	2	0	1	0	1	.04	1	-.019	2	.079	1	-.047	2
1036			min	.19	1	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1037		4	max	.229	2	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1038			min	.188	1	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1039		5	max	.228	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1040			min	.186	1	-.009	1	0	1	0	1	0	1	0	1	0	1
1041	M105	1	max	.333	2	.009	1	0	1	0	1	0	1	0	1	0	1
1042			min	.303	1	.004	2	0	1	0	1	0	1	0	1	0	1
1043		2	max	.332	2	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1044			min	.301	1	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1045		3	max	.331	2	0	1	0	1	.04	1	-.019	2	.078	1	-.047	2
1046			min	.299	1	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1047		4	max	.331	2	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1048			min	.298	1	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1049		5	max	.33	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1050			min	.296	1	-.009	1	0	1	0	1	0	1	0	1	0	1
1051	M106	1	max	-.266	1	.009	1	0	1	0	1	0	1	0	1	0	1
1052			min	-.313	2	.004	2	0	1	0	1	0	1	0	1	0	1
1053		2	max	-.264	1	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1054			min	-.312	2	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1055		3	max	-.263	1	0	1	0	1	.04	1	-.019	2	.079	1	-.047	2
1056			min	-.311	2	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1057		4	max	-.261	1	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1058			min	-.31	2	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1059		5	max	-.259	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1060			min	-.309	2	-.009	1	0	1	0	1	0	1	0	1	0	1
1061	M107	1	max	.332	2	.009	1	0	1	0	1	0	1	0	1	0	1
1062			min	.302	1	.004	2	0	1	0	1	0	1	0	1	0	1
1063		2	max	.331	2	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1064			min	.301	1	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1065		3	max	.33	2	0	1	0	1	.04	1	-.019	2	.078	1	-.047	2
1066			min	.299	1	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1067		4	max	.329	2	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1068			min	.297	1	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1069		5	max	.328	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1070			min	.295	1	-.009	1	0	1	0	1	0	1	0	1	0	1
1071	M108	1	max	-.266	1	.009	1	0	1	0	1	0	1	0	1	0	1
1072			min	-.311	2	.004	2	0	1	0	1	0	1	0	1	0	1
1073		2	max	-.264	1	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1074			min	-.31	2	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1075		3	max	-.262	1	0	1	0	1	.04	1	-.019	2	.079	1	-.047	2
1076			min	-.31	2	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1077		4	max	-.26	1	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1078			min	-.309	2	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1079		5	max	-.258	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1080			min	-.308	2	-.009	1	0	1	0	1	0	1	0	1	0	1
1081	M109	1	max	.227	2	.009	1	0	1	0	1	0	1	0	1	0	1
1082			min	.185	1	.004	2	0	1	0	1	0	1	0	1	0	1
1083		2	max	.228	2	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1084			min	.187	1	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1085		3	max	.228	2	0	1	0	1	.04	1	-.019	2	.079	1	-.047	2
1086			min	.189	1	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1087		4	max	.229	2	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1088			min	.191	1	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1089		5	max	.23	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1090			min	.193	1	-.009	1	0	1	0	1	0	1	0	1	0	1
1091	M110	1	max	-.213	1	.009	1	0	1	0	1	0	1	0	1	0	1
1092			min	-.237	2	.004	2	0	1	0	1	0	1	0	1	0	1
1093		2	max	-.215	1	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1094			min	-.238	2	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1095		3	max	-.217	1	0	1	0	1	.04	1	-.019	2	.078	1	-.047	2
1096			min	-.239	2	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1097		4	max	-.219	1	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1098			min	-.24	2	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1099		5	max	-.221	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1100			min	-.241	2	-.009	1	0	1	0	1	0	1	0	1	0	1
1101	M111	1	max	5.214	2	.009	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1102			min	4.511	1	.004	2	0	1	0	1	0	1	0	1	0	1
1103		2	max	5.215	2	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1104			min	4.513	1	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1105		3	max	5.216	2	0	1	0	1	.04	1	-.019	2	.078	1	-.047	2
1106			min	4.515	1	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1107		4	max	5.217	2	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1108			min	4.517	1	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1109		5	max	5.218	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1110			min	4.519	1	-.009	1	0	1	0	1	0	1	0	1	0	1
1111	M112	1	max	-4.532	1	.009	1	0	1	0	1	0	1	0	1	0	1
1112			min	-5.218	2	.004	2	0	1	0	1	0	1	0	1	0	1
1113		2	max	-4.534	1	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1114			min	-5.219	2	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1115		3	max	-4.536	1	0	1	0	1	.04	1	-.019	2	.079	1	-.047	2
1116			min	-5.22	2	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1117		4	max	-4.537	1	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1118			min	-5.22	2	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1119		5	max	-4.539	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1120			min	-5.221	2	-.009	1	0	1	0	1	0	1	0	1	0	1
1121	M113	1	max	4.575	2	.009	1	0	1	0	1	0	1	0	1	0	1
1122			min	3.984	1	.004	2	0	1	0	1	0	1	0	1	0	1
1123		2	max	4.574	2	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1124			min	3.983	1	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1125		3	max	4.573	2	0	1	0	1	.04	1	-.019	2	.079	1	-.047	2
1126			min	3.981	1	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1127		4	max	4.573	2	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1128			min	3.979	1	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1129		5	max	4.572	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1130			min	3.977	1	-.009	1	0	1	0	1	0	1	0	1	0	1
1131	M114	1	max	-3.939	1	.009	1	0	1	0	1	0	1	0	1	0	1
1132			min	-4.546	2	.004	2	0	1	0	1	0	1	0	1	0	1
1133		2	max	-3.937	1	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1134			min	-4.545	2	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1135		3	max	-3.935	1	0	1	0	1	.04	1	-.019	2	.078	1	-.047	2
1136			min	-4.545	2	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1137		4	max	-3.933	1	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1138			min	-4.544	2	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1139		5	max	-3.932	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1140			min	-4.543	2	-.009	1	0	1	0	1	0	1	0	1	0	1
1141	M115	1	max	5.216	2	.009	1	0	1	0	1	0	1	0	1	0	1
1142			min	4.555	1	.004	2	0	1	0	1	0	1	0	1	0	1
1143		2	max	5.217	2	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1144			min	4.557	1	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1145		3	max	5.218	2	0	1	0	1	.04	1	-.019	2	.078	1	-.047	2
1146			min	4.559	1	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1147		4	max	5.218	2	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1148			min	4.561	1	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1149		5	max	5.219	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1150			min	4.563	1	-.009	1	0	1	0	1	0	1	0	1	0	1
1151	M116	1	max	-4.581	1	.009	1	0	1	0	1	0	1	0	1	0	1
1152			min	-5.226	2	.004	2	0	1	0	1	0	1	0	1	0	1
1153		2	max	-4.583	1	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1154			min	-5.226	2	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1155		3	max	-4.585	1	0	1	0	1	.04	1	-.019	2	.079	1	-.047	2
1156			min	-5.227	2	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1157		4	max	-4.587	1	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1158			min	-5.228	2	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1159		5	max	-4.589	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1160			min	-5.229	2	-.009	1	0	1	0	1	0	1	0	1	0	1
1161	M117	1	max	4.57	2	.009	1	0	1	0	1	0	1	0	1	0	1
1162			min	4.013	1	.004	2	0	1	0	1	0	1	0	1	0	1
1163		2	max	4.569	2	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1164			min	4.011	1	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1165		3	max	4.568	2	0	1	0	1	.04	1	-.019	2	.079	1	-.047	2
1166			min	4.009	1	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1167		4	max	4.568	2	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1168			min	4.007	1	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1169		5	max	4.567	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1170			min	4.006	1	-.009	1	0	1	0	1	0	1	0	1	0	1
1171	M118	1	max	-3.976	1	.009	1	0	1	0	1	0	1	0	1	0	1
1172			min	-4.551	2	.004	2	0	1	0	1	0	1	0	1	0	1
1173		2	max	-3.974	1	.005	1	0	1	.03	1	-.014	2	.059	1	-.035	2
1174			min	-4.55	2	.002	2	0	1	.014	2	-.03	1	.028	2	-.074	1
1175		3	max	-3.972	1	0	1	0	1	.04	1	-.019	2	.078	1	-.047	2
1176			min	-4.55	2	0	1	0	1	.019	2	-.04	1	.037	2	-.099	1
1177		4	max	-3.971	1	-.002	2	0	1	.03	1	-.014	2	.059	1	-.035	2
1178			min	-4.549	2	-.005	1	0	1	.014	2	-.03	1	.028	2	-.074	1
1179		5	max	-3.969	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1180			min	-4.548	2	-.009	1	0	1	0	1	0	1	0	1	0	1
1181	M119	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1182			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1183		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1184			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1185		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1186			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1187		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1188			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1189		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1190			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1191	M120	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1192			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1193		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1194			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1195		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1196			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1197		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1198			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1199		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1200			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1201	M121	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1202			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1203		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1204			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1205		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1206			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1207		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1208			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1209		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1210			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1211	M122	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1212			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1213		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1214			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1215		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1216			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1217		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1218			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1219		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1220			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1221	M123	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1222			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1223		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1224			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1225		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1226			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1227		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1228			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1229		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1230			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1231	M124	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1232			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1233		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1234			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1235		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1236			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1237		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1238			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1239		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1240			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1241	M125	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1242			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1243		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1244			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1245		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1246			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1247		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1248			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1249		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1250			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1251	M126	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1252			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1253		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1254			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1255		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1256			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1257		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1258			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1259		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1260			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1261	M127	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1262			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1263		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1264			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1265		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1266			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1267		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1268			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1269		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1270			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1271	M128	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1272			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1273		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1274			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1275		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1276			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1277		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1278			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1279		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1280			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1281	M129	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1282			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1283		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1284			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1285		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1286			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1287		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1288			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1289		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1290			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1291	M130	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1292			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1293		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1294			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1295		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1296			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1297		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1298			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1299		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1300			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Joint Reactions

	Joint		X [k]	lc	Y [k]	lc	Z [k]	lc	MX [k-ft]	lc	MY [k-ft]	lc	MZ [k-ft]	lc
1	N98	max	-.028	1	6.189	1	6.143	2	68.305	2	.027	1	-.185	1
2		min	-.032	2	3.597	2	5.356	1	59.889	1	-.003	2	-.211	2
3	N99	max	.032	2	1.146	1	1.018	2	2.223	2	.003	2	-.187	1
4		min	.028	1	.672	2	.889	1	1.935	1	.002	1	-.214	2
5	Totals:	max	0	2	7.334	1	7.16	2						
6		min	0	1	4.269	2	6.244	1						

Envelope Joint Displacements

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
1	N1	max	0	1	0	2	0	1	0	1	0	1	0	1
2		min	0	2	0	1	0	2	0	2	0	2	0	2
3	N2	max	0	2	0	2	-.001	1	-1.872e-4	1	4.555e-6	2	-9.539e-5	1
4		min	0	1	0	1	-.002	2	-2.139e-4	2	3.983e-6	1	-1.103e-4	2
5	N3	max	.001	2	0	2	-.002	1	-1.693e-4	1	5.751e-6	2	-8.219e-5	1
6		min	0	1	0	1	-.002	2	-1.932e-4	2	5.028e-6	1	-9.543e-5	2
7	N4	max	0	2	0	2	-.003	1	8.35e-7	2	1.241e-5	2	2.584e-5	2
8		min	0	1	0	1	-.004	2	5.757e-7	1	1.089e-5	1	2.194e-5	1
9	N5	max	0	2	0	2	-.004	1	1.324e-5	1	9.494e-6	2	-5.611e-6	1
10		min	0	1	0	1	-.004	2	1.267e-5	2	8.373e-6	1	-5.977e-6	2
11	N6	max	0	2	0	2	-.002	1	-2.727e-6	1	9.438e-6	2	-2.657e-5	1
12		min	0	1	0	1	-.002	2	-4.14e-6	2	8.234e-6	1	-3.196e-5	2
13	N7	max	0	2	0	2	-.001	1	1.166e-4	2	4.943e-6	2	6.072e-5	2
14		min	0	1	0	1	-.001	2	1.007e-4	1	4.292e-6	1	5.286e-5	1
15	N8	max	.001	2	-.002	1	-.007	1	-7.374e-4	1	-5.052e-6	1	-7.631e-5	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
16		min	.001	1	-.003	2	-.008	2	-8.433e-4	2	-5.238e-6	2	-8.901e-5	2
17	N9	max	.004	2	-.006	1	-.027	1	-1.816e-3	1	-1.409e-5	1	-3.661e-4	1
18		min	.003	1	-.006	2	-.031	2	-2.071e-3	2	-1.479e-5	2	-4.167e-4	2
19	N10	max	.002	2	-.009	1	-.049	1	-7.231e-4	1	-3.165e-5	1	3.736e-4	2
20		min	.002	1	-.01	2	-.056	2	-8.208e-4	2	-3.406e-5	2	3.329e-4	1
21	N11	max	-.001	2	-.014	1	-.079	1	-1.114e-3	1	-4.795e-5	1	-6.492e-5	1
22		min	-.001	1	-.015	2	-.09	2	-1.267e-3	2	-5.169e-5	2	-7.435e-5	2
23	N12	max	.002	2	-.018	1	-.118	1	-1.286e-3	1	-4.941e-5	1	-3.793e-5	1
24		min	.002	1	-.019	2	-.134	2	-1.468e-3	2	-5.24e-5	2	-4.022e-5	2
25	N13	max	.002	2	-.02	1	-.162	1	-1.487e-3	1	-4.5e-5	1	-3.734e-5	1
26		min	.002	1	-.022	2	-.184	2	-1.693e-3	2	-4.639e-5	2	-4.251e-5	2
27	N14	max	.003	2	-.022	1	-.21	1	-1.355e-3	1	-4.791e-5	1	8.191e-5	2
28		min	.003	1	-.024	2	-.239	2	-1.546e-3	2	-4.869e-5	2	6.977e-5	1
29	N15	max	.004	2	-.023	1	-.25	1	-2.198e-3	1	-1.758e-5	2	-3.908e-4	1
30		min	.003	1	-.024	2	-.285	2	-2.504e-3	2	-2.124e-5	1	-4.386e-4	2
31	N16	max	.007	2	-.023	1	-.264	1	-1.414e-3	1	6.543e-7	2	-6.555e-6	1
32		min	.006	1	-.024	2	-.301	2	-1.609e-3	2	-5.347e-6	1	-7.444e-6	2
33	N17	max	0	2	0	2	0	1	0	2	0	2	0	2
34		min	0	1	0	1	0	2	0	1	0	1	0	1
35	N18	max	0	2	0	2	-.001	1	-1.876e-4	1	-6.854e-7	1	-1.006e-4	1
36		min	0	1	0	1	-.002	2	-2.14e-4	2	-8.011e-7	2	-1.143e-4	2
37	N19	max	.001	2	0	2	-.002	1	-1.699e-4	1	-8.653e-7	1	-8.86e-5	1
38		min	0	1	0	1	-.002	2	-1.935e-4	2	-1.011e-6	2	-1.001e-4	2
39	N20	max	0	2	0	2	-.003	1	1.078e-6	2	-1.897e-6	1	3.31e-5	2
40		min	0	1	0	1	-.004	2	9.297e-7	1	-2.214e-6	2	2.921e-5	1
41	N21	max	0	2	0	2	-.004	1	1.291e-5	1	-4.144e-7	1	-2.627e-6	1
42		min	0	1	0	1	-.004	2	1.216e-5	2	-5.566e-7	2	-5.714e-6	2
43	N22	max	0	2	0	2	-.002	1	-3.199e-6	1	-1.324e-7	1	-3.299e-5	1
44		min	0	1	0	1	-.002	2	-4.693e-6	2	-2.899e-7	2	-3.748e-5	2
45	N23	max	0	2	0	2	-.001	1	1.173e-4	2	-3.334e-7	1	6.269e-5	2
46		min	0	1	0	1	-.001	2	1.012e-4	1	-4.47e-7	2	5.335e-5	1
47	N24	max	.003	2	-.002	1	-.007	1	-7.383e-4	1	7.341e-6	2	-1.366e-4	1
48		min	.002	1	-.003	2	-.008	2	-8.477e-4	2	6.269e-6	1	-1.535e-4	2
49	N25	max	.004	2	-.006	1	-.026	1	-1.778e-3	1	2.225e-5	2	-3.373e-4	1
50		min	.003	1	-.007	2	-.03	2	-2.044e-3	2	1.887e-5	1	-3.89e-4	2
51	N26	max	.004	2	-.009	1	-.048	1	-7.687e-4	1	3.072e-5	2	1.642e-4	2
52		min	.004	1	-.01	2	-.056	2	-8.729e-4	2	2.59e-5	1	1.372e-4	1
53	N27	max	.007	2	-.014	1	-.079	1	-1.094e-3	1	3.689e-5	2	-5.832e-5	1
54		min	.006	1	-.015	2	-.091	2	-1.244e-3	2	3.041e-5	1	-6.519e-5	2
55	N28	max	.005	2	-.018	1	-.117	1	-1.285e-3	1	4.043e-5	2	6.947e-5	2
56		min	.004	1	-.019	2	-.134	2	-1.466e-3	2	3.251e-5	1	6.295e-5	1
57	N29	max	.005	2	-.021	1	-.162	1	-1.501e-3	1	3.397e-5	2	-4.027e-5	1
58		min	.005	1	-.022	2	-.185	2	-1.706e-3	2	2.59e-5	1	-4.399e-5	2
59	N30	max	.004	2	-.022	1	-.209	1	-1.348e-3	1	2.576e-5	2	1.484e-4	2
60		min	.004	1	-.024	2	-.239	2	-1.537e-3	2	1.773e-5	1	1.328e-4	1
61	N31	max	.004	2	-.023	1	-.25	1	-2.199e-3	1	7.923e-6	2	-3.636e-4	1
62		min	.004	1	-.024	2	-.285	2	-2.504e-3	2	1.243e-6	1	-4.162e-4	2
63	N32	max	.007	2	-.023	1	-.264	1	-1.414e-3	1	6.543e-7	2	-6.555e-6	1
64		min	.006	1	-.025	2	-.301	2	-1.609e-3	2	-5.347e-6	1	-7.444e-6	2
65	N33	max	0	2	0	2	0	1	0	1	0	1	0	1
66		min	0	1	0	1	0	2	0	2	0	2	0	2
67	N34	max	0	2	0	2	-.001	1	-2.179e-4	1	2.021e-6	2	-1.115e-4	1
68		min	0	1	0	1	-.002	2	-2.504e-4	2	1.784e-6	1	-1.286e-4	2
69	N35	max	.001	2	0	2	-.002	1	-2.193e-4	1	2.551e-6	2	-1.09e-4	1
70		min	0	1	0	1	-.002	2	-2.516e-4	2	2.253e-6	1	-1.258e-4	2
71	N36	max	.001	2	0	2	-.004	1	1.568e-5	2	6.727e-6	2	4.103e-5	2
72		min	0	1	0	1	-.005	2	1.389e-5	1	5.928e-6	1	3.549e-5	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
73	N37	max	0	2	0	2	-.004	1	1.608e-5	2	5.582e-6	2	-1.127e-5	2
74		min	0	1	0	1	-.005	2	1.248e-5	1	4.962e-6	1	-1.176e-5	1
75	N38	max	0	2	0	2	-.002	1	1.918e-5	2	3.7e-6	2	-1.943e-5	1
76		min	0	1	0	1	-.002	2	1.582e-5	1	3.352e-6	1	-2.271e-5	2
77	N39	max	0	2	0	2	-.001	1	1.276e-4	2	1.285e-6	2	6.887e-5	2
78		min	0	1	0	1	-.001	2	1.122e-4	1	1.178e-6	1	6.136e-5	1
79	N40	max	.003	2	.002	2	-.007	1	-7.783e-4	1	-4.641e-6	1	-1.512e-4	1
80		min	.002	1	.002	1	-.008	2	-8.895e-4	2	-4.969e-6	2	-1.755e-4	2
81	N41	max	.004	2	.006	2	-.028	1	-1.787e-3	1	-1.625e-5	1	-3.393e-4	1
82		min	.004	1	.005	1	-.031	2	-2.041e-3	2	-1.756e-5	2	-3.876e-4	2
83	N42	max	.004	2	.009	2	-.049	1	-7.319e-4	1	-2.384e-5	1	1.924e-4	2
84		min	.004	1	.007	1	-.056	2	-8.386e-4	2	-2.554e-5	2	1.727e-4	1
85	N43	max	.006	2	.013	2	-.079	1	-1.093e-3	1	-3.153e-5	1	-5.688e-5	1
86		min	.005	1	.011	1	-.09	2	-1.248e-3	2	-3.32e-5	2	-6.66e-5	2
87	N44	max	.004	2	.017	2	-.117	1	-1.293e-3	1	-3.571e-5	1	6.501e-5	2
88		min	.004	1	.014	1	-.134	2	-1.47e-3	2	-3.69e-5	2	5.505e-5	1
89	N45	max	.005	2	.019	2	-.162	1	-1.496e-3	1	-3.068e-5	2	-3.524e-5	1
90		min	.004	1	.016	1	-.185	2	-1.705e-3	2	-3.112e-5	1	-4.181e-5	2
91	N46	max	.004	2	.02	2	-.209	1	-1.35e-3	1	-2.268e-5	2	1.454e-4	2
92		min	.003	1	.016	1	-.239	2	-1.534e-3	2	-2.499e-5	1	1.261e-4	1
93	N47	max	.004	2	.02	2	-.25	1	-2.192e-3	1	-6.26e-6	2	-3.699e-4	1
94		min	.003	1	.016	1	-.285	2	-2.489e-3	2	-1.126e-5	1	-4.164e-4	2
95	N48	max	.007	2	.02	2	-.264	1	-1.414e-3	1	6.543e-7	2	-6.555e-6	1
96		min	.006	1	.016	1	-.301	2	-1.609e-3	2	-5.347e-6	1	-7.444e-6	2
97	N49	max	0	2	0	2	0	1	0	1	0	2	0	1
98		min	0	1	0	1	0	2	0	2	0	1	0	2
99	N50	max	0	2	0	2	-.001	1	-2.182e-4	1	-4.347e-6	1	-1.112e-4	1
100		min	0	1	0	1	-.002	2	-2.504e-4	2	-4.969e-6	2	-1.263e-4	2
101	N51	max	.001	2	0	2	-.002	1	-2.196e-4	1	-5.488e-6	1	-1.089e-4	1
102		min	0	1	0	1	-.002	2	-2.517e-4	2	-6.273e-6	2	-1.23e-4	2
103	N52	max	.001	2	0	2	-.004	1	1.551e-5	2	-1.021e-5	1	3.481e-5	2
104		min	0	1	0	1	-.005	2	1.389e-5	1	-1.172e-5	2	3.103e-5	1
105	N53	max	.001	2	0	2	-.004	1	1.637e-5	2	-5.636e-6	1	-8.325e-6	1
106		min	0	1	0	1	-.005	2	1.285e-5	1	-6.565e-6	2	-1.051e-5	2
107	N54	max	0	2	0	2	-.002	1	1.979e-5	2	-5.725e-6	1	-1.659e-5	1
108		min	0	1	0	1	-.002	2	1.637e-5	1	-6.595e-6	2	-1.76e-5	2
109	N55	max	0	2	0	2	-.001	1	1.262e-4	2	-3.51e-6	1	6.495e-5	2
110		min	0	1	0	1	-.001	2	1.109e-4	1	-4.015e-6	2	5.671e-5	1
111	N56	max	.002	2	.002	2	-.007	1	-7.786e-4	1	5.751e-6	2	-1.062e-4	1
112		min	.001	1	.002	1	-.008	2	-8.921e-4	2	4.726e-6	1	-1.196e-4	2
113	N57	max	.004	2	.006	2	-.028	1	-1.79e-3	1	1.728e-5	2	-3.552e-4	1
114		min	.004	1	.005	1	-.032	2	-2.062e-3	2	1.435e-5	1	-4.11e-4	2
115	N58	max	.002	2	.009	2	-.049	1	-6.871e-4	1	3.667e-5	2	3.756e-4	2
116		min	.002	1	.007	1	-.056	2	-7.88e-4	2	3.081e-5	1	3.218e-4	1
117	N59	max	0	1	.013	2	-.078	1	-1.115e-3	1	5.439e-5	2	-7.029e-5	1
118		min	0	2	.011	1	-.09	2	-1.272e-3	2	4.549e-5	1	-8.05e-5	2
119	N60	max	.002	2	.017	2	-.117	1	-1.295e-3	1	5.471e-5	2	-2.718e-5	1
120		min	.002	1	.014	1	-.134	2	-1.471e-3	2	4.496e-5	1	-3.375e-5	2
121	N61	max	.002	2	.019	2	-.161	1	-1.486e-3	1	4.821e-5	2	-4.029e-5	1
122		min	.002	1	.015	1	-.184	2	-1.692e-3	2	3.834e-5	1	-4.56e-5	2
123	N62	max	.004	2	.02	2	-.209	1	-1.359e-3	1	4.993e-5	2	8.981e-5	2
124		min	.003	1	.016	1	-.239	2	-1.544e-3	2	3.899e-5	1	8.172e-5	1
125	N63	max	.004	2	.02	2	-.25	1	-2.191e-3	1	1.867e-5	2	-3.602e-4	1
126		min	.003	1	.016	1	-.285	2	-2.487e-3	2	1.071e-5	1	-4.138e-4	2
127	N64	max	.007	2	.02	2	-.264	1	-1.414e-3	1	6.543e-7	2	-6.555e-6	1
128		min	.006	1	.016	1	-.301	2	-1.609e-3	2	-5.347e-6	1	-7.444e-6	2
129	LC1	max	0	2	-.015	1	-.091	1	-1.181e-3	1	-4.841e-5	1	-9.644e-5	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
130		min	0	1	-.016	2	-.103	2	-1.349e-3	2	-5.191e-5	2	-1.063e-4	2
131	LC2	max	.007	2	-.015	1	-.091	1	-1.138e-3	1	3.8e-5	2	6.377e-5	2
132		min	.006	1	-.016	2	-.103	2	-1.299e-3	2	3.107e-5	1	5.9e-5	1
133	LC3	max	.007	2	.014	2	-.09	1	-1.169e-3	1	-3.284e-5	1	4.363e-5	2
134		min	.005	1	.012	1	-.103	2	-1.327e-3	2	-3.436e-5	2	3.512e-5	1
135	LC4	max	0	1	.014	2	-.09	1	-1.211e-3	1	5.449e-5	2	-9.518e-5	1
136		min	0	2	.012	1	-.103	2	-1.375e-3	2	4.532e-5	1	-1.118e-4	2
137	N69	max	0	2	0	2	-.003	1	9.637e-5	2	9.582e-6	2	2.937e-5	2
138		min	0	1	0	1	-.004	2	8.404e-5	1	8.449e-6	1	2.531e-5	1
139	N70	max	0	2	0	2	-.002	1	7.041e-5	2	9.032e-6	2	7.795e-6	2
140		min	0	1	0	1	-.002	2	6.036e-5	1	7.937e-6	1	6.835e-6	1
141	N71	max	0	2	0	2	-.004	1	-1.627e-7	2	-6.682e-6	1	-2.886e-6	2
142		min	0	1	0	1	-.004	2	-1.636e-7	1	-8.045e-6	2	-3.458e-6	1
143	N72	max	0	2	0	2	-.002	1	5.977e-6	2	2.872e-6	1	-1.156e-5	1
144		min	0	1	0	1	-.002	2	5.2e-6	1	2.871e-6	2	-1.413e-5	2
145	N73	max	.001	2	0	2	-.004	1	5.397e-5	2	5.121e-6	2	-4.717e-6	1
146		min	0	1	0	1	-.005	2	4.672e-5	1	4.572e-6	1	-4.762e-6	2
147	N74	max	0	2	0	2	-.002	1	1.067e-4	2	4.914e-6	2	2.143e-5	2
148		min	0	1	0	1	-.003	2	9.441e-5	1	4.414e-6	1	1.989e-5	1
149	N75	max	0	2	0	2	-.003	1	9.626e-5	2	2.244e-7	1	2.174e-5	2
150		min	0	1	0	1	-.004	2	8.381e-5	1	1.689e-7	2	1.926e-5	1
151	N76	max	0	2	0	2	-.002	1	7.027e-5	2	-1.264e-7	1	-2.056e-6	2
152		min	0	1	0	1	-.002	2	6.01e-5	1	-2.721e-7	2	-2.811e-6	1
153	N77	max	0	2	0	2	-.004	1	-2.167e-7	1	1.21e-5	2	-1.165e-6	1
154		min	0	1	0	1	-.004	2	-3.063e-7	2	1.086e-5	1	-2.676e-6	2
155	N78	max	0	2	0	2	-.002	1	5.928e-6	2	1.453e-6	1	-1.303e-5	1
156		min	0	1	0	1	-.002	2	5.19e-6	1	1.25e-6	2	-1.417e-5	2
157	N79	max	.001	2	0	2	-.004	1	5.442e-5	2	-5.02e-6	1	3.266e-6	2
158		min	.001	1	0	1	-.005	2	4.697e-5	1	-5.88e-6	2	2.872e-6	1
159	N80	max	0	2	0	2	-.002	1	1.072e-4	2	-4.627e-6	1	3.109e-5	2
160		min	0	1	0	1	-.003	2	9.471e-5	1	-5.398e-6	2	2.723e-5	1
161	N81	max	.001	2	-.005	1	-.016	1	-1.332e-3	1	-1.111e-5	1	-1.821e-4	1
162		min	.001	1	-.005	2	-.019	2	-1.519e-3	2	-1.161e-5	2	-2.052e-4	2
163	N82	max	.005	2	-.007	1	-.038	1	-1.418e-3	1	-1.707e-5	1	-6.171e-5	1
164		min	.005	1	-.008	2	-.044	2	-1.618e-3	2	-1.796e-5	2	-7.252e-5	2
165	N83	max	.002	2	0	2	-.009	1	-1.518e-4	1	4.743e-5	2	-1.264e-4	1
166		min	.002	1	0	1	-.01	2	-1.73e-4	2	4.119e-5	1	-1.453e-4	2
167	N84	max	.003	2	0	2	-.047	1	-5.835e-4	1	7.42e-5	2	1.7e-4	2
168		min	.003	1	0	1	-.054	2	-6.651e-4	2	6.452e-5	1	1.528e-4	1
169	N85	max	.003	2	.005	2	-.017	1	-1.318e-3	1	-1.177e-5	1	-1.285e-4	1
170		min	.002	1	.004	1	-.019	2	-1.503e-3	2	-1.27e-5	2	-1.45e-4	2
171	N86	max	.006	2	.007	2	-.039	1	-1.392e-3	1	-2.073e-5	1	-9.813e-5	1
172		min	.005	1	.006	1	-.044	2	-1.59e-3	2	-2.242e-5	2	-1.138e-4	2
173	N87	max	.002	2	-.005	1	-.016	1	-1.267e-3	1	1.696e-5	2	-9.812e-5	1
174		min	.002	1	-.005	2	-.018	2	-1.458e-3	2	1.443e-5	1	-1.149e-4	2
175	N88	max	.006	2	-.007	1	-.038	1	-1.427e-3	1	2.753e-5	2	-1.281e-4	1
176		min	.005	1	-.008	2	-.043	2	-1.639e-3	2	2.332e-5	1	-1.46e-4	2
177	N89	max	.002	2	-.001	2	-.009	1	-1.517e-4	1	-3.552e-5	1	-1.291e-4	1
178		min	.001	1	-.001	1	-.01	2	-1.73e-4	2	-4.004e-5	2	-1.469e-4	2
179	N90	max	.004	2	0	2	-.047	1	-5.84e-4	1	-5.916e-5	1	1.599e-4	2
180		min	.003	1	0	1	-.054	2	-6.655e-4	2	-6.665e-5	2	1.352e-4	1
181	N91	max	.002	2	.005	2	-.017	1	-1.354e-3	1	1.366e-5	2	-1.93e-4	1
182		min	.002	1	.004	1	-.02	2	-1.558e-3	2	1.131e-5	1	-2.241e-4	2
183	N92	max	.006	2	.007	2	-.039	1	-1.362e-3	1	2.09e-5	2	-4.246e-5	1
184		min	.005	1	.006	1	-.045	2	-1.567e-3	2	1.739e-5	1	-4.836e-5	2
185	N93	max	0	2	0	2	0	1	0	2	0	1	0	1
186		min	0	1	0	1	0	2	0	1	0	2	0	2

Envelope Joint Displacements (Continued)

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
187	N94	max	0	1	0	2	0	1	0	2	0	2	0	2
188		min	0	2	0	1	0	2	0	1	0	1	0	1
189	N95	max	0	1	0	2	0	1	0	1	0	1	0	1
190		min	0	2	0	1	0	2	0	2	0	2	0	2
191	N96	max	0	2	0	2	0	1	0	1	0	2	0	2
192		min	0	1	0	1	0	2	0	2	0	1	0	1
193	N97	max	.007	2	-.002	2	-.264	1	-1.414e-3	1	6.543e-7	2	-6.555e-6	1
194		min	.006	1	-.003	1	-.301	2	-1.609e-3	2	-5.347e-6	1	-7.444e-6	2
195	N98	max	0	2	0	2	0	1	0	1	0	2	0	2
196		min	0	1	0	1	0	2	0	2	0	1	0	1
197	N99	max	0	1	0	2	0	1	0	1	0	1	0	2
198		min	0	2	0	1	0	2	0	2	0	2	0	1
199	N100	max	0	2	0	1	0	1	0	1	0	1	0	2
200		min	0	1	0	2	0	2	0	2	0	2	0	1
201	N101	max	0	1	0	1	0	1	0	1	0	2	0	1
202		min	0	2	0	2	0	2	0	2	0	1	0	2
203	N102	max	0	1	0	2	0	1	0	1	0	1	0	1
204		min	0	2	0	1	0	2	0	2	0	2	0	2
205	N103	max	0	2	0	2	0	1	0	1	0	2	0	2
206		min	0	1	0	1	0	2	0	2	0	1	0	1

Envelope AISC ASD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	lc	She...	Loc[ft]	...	lc	Fa [...	Ft [...	Fb ...	...	C...	C...	AS...
1	M1	L3.5X3.5X5	.302	14.836	2	.097	16.185	z	2	20....	21.6	-...				H2-1
2	M2	L3.5X3.5X5	.146	1.741	2	.056	9.42	z	2	19....	21.6	-...				H2-1
3	M3	L3.5X3.5X5	.341	14.387	2	.105	14.387	z	2	20....	21.6	-...				H1-1
4	M4	L3.5X3.5X5	.188	0	2	.056	9.42	z	2	19....	21.6	-...				H1-1
5	M5	L3.5X3.5X5	.294	14.836	2	.104	14.387	z	2	20....	21.6	-...				H2-1
6	M6	L3.5X3.5X5	.144	1.741	2	.058	9.42	z	2	19....	21.6	-...				H2-1
7	M7	L3.5X3.5X5	.350	14.387	2	.097	14.387	z	2	20....	21.6	-...				H1-1
8	M8	L3.5X3.5X5	.189	0	2	.054	9.42	z	2	19....	21.6	-...				H1-1
9	M9	L1.5X1.5X3	.001	0	1	.001	0	y	1	13....	21.6	-...				H2-1
10	M10	L1.5X1.5X3	.006	0	2	.001	0	y	1	13....	21.6	-...				H1-1
11	M11	L1.5X1.5X3	.001	0	2	.005	0	z	2	13....	21.6	-...				H1-1
12	M12	L1.5X1.5X3	.005	0	2	.001	0	y	1	13....	21.6	-...				H1-1
13	M13	L1.5X1.5X3	.009	0	1	.002	0	y	1	5.596	21.6	-...				H1-1
14	M14	L1.5X1.5X3	.004	0	1	.002	0	y	1	5.596	21.6	-...				H1-1
15	M15	L1.5X1.5X3	.131	0	2	.001	0	y	1	5.596	21.6	-...				H1-1
16	M16	L1.5X1.5X3	.017	3.989	2	.002	0	y	1	5.596	21.6	-...				H2-1
17	M17	L1.5X1.5X3	.001	3.989	2	.009	0	z	2	5.596	21.6	-...				H2-1
18	M18	L1.5X1.5X3	.003	0	1	.009	0	z	2	5.596	21.6	-...				H1-1
19	M19	L1.5X1.5X3	.017	3.989	2	.002	3.989	y	1	5.596	21.6	-...				H2-1
20	M20	L1.5X1.5X3	.132	0	2	.002	3.989	y	1	5.596	21.6	-...				H1-1
21	M21	L1.5X1.5X3	.001	0	1	.001	0	y	1	5.596	21.6	-...				H1-1
22	M22	L1.5X1.5X3	.002	0	1	.001	0	y	1	5.596	21.6	-...				H2-1
23	M23	L1.5X1.5X3	.046	0	2	.001	3.989	y	1	5.596	21.6	-...				H1-1
24	M24	L1.5X1.5X3	.014	0	2	.001	0	y	1	5.596	21.6	-...				H1-1
25	M25	L1.5X1.5X3	.001	3.989	1	.008	0	z	2	5.596	21.6	-...				H2-1
26	M26	L1.5X1.5X3	.007	0	2	.008	0	z	2	5.596	21.6	-...				H1-1
27	M27	L1.5X1.5X3	.013	0	2	.001	0	y	1	5.596	21.6	-...				H1-1
28	M28	L1.5X1.5X3	.046	0	2	.001	0	y	1	5.596	21.6	-...				H1-1
29	M29	L1.5X1.5X3	.009	0	1	.008	0	z	2	5.596	21.6	-...				H1-1
30	M30	L1.5X1.5X3	.002	3.989	1	.008	0	z	2	5.596	21.6	-...				H2-1
31	M31	L1.5X1.5X3	.022	0	2	.001	0	y	1	13....	21.6	-...				H1-1
32	M32	L1.5X1.5X3	.022	0	2	.001	0	y	1	13....	21.6	-...				H1-1
33	M33	L1.5X1.5X3	.010	0	2	.001	3.989	y	1	5.596	21.6	-...				H1-1

Envelope AISC ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	lc	She...	Loc[ft]	...	lc	Fa [...	Ft [...	...	Fb ...	...	C...	C...	AS...
34	M34	L1.5X1.5X3	.002	3.989	1	.001	3.989	y	1	5.596	21.6	-...					H2-1
35	M35	L1.5X1.5X3	.026	1.156	2	.001	1.156	y	1	13....	21.6	-...					H1-1
36	M36	L1.5X1.5X3	.027	1.156	2	.001	1.156	y	1	13....	21.6	-...					H1-1
37	M37	L1.5X1.5X3	.002	0	1	.002	2.9	y	1	10....	21.6	-...					H1-1
38	M38	L1.5X1.5X3	.001	2.9	1	.002	2.9	y	1	10....	21.6	-...					H2-1
39	M39	L1.5X1.5X3	.049	0	2	.002	2.9	y	1	10....	21.6	-...					H1-1
40	M40	L1.5X1.5X3	.018	2.9	2	.002	0	y	1	10....	21.6	-...					H2-1
41	M41	L1.5X1.5X3	.002	0	1	.006	2.9	z	2	10....	21.6	-...					H1-1
42	M42	L1.5X1.5X3	.002	2.9	2	.006	2.9	z	2	10....	21.6	-...					H2-1
43	M43	L1.5X1.5X3	.049	0	2	.002	2.9	y	1	10....	21.6	-...					H1-1
44	M44	L1.5X1.5X3	.018	2.9	2	.002	0	y	1	10....	21.6	-...					H2-1
45	M45	L1.5X1.5X3	.293	1.156	2	.001	0	y	1	13....	21.6	-...					H1-1
46	M46	L1.5X1.5X3	.310	0	2	.001	0	y	1	13....	21.6	-...					H1-1
47	M47	L1.5X1.5X3	.268	0	2	.003	1.132	y	1	13....	21.6	-...					H1-1
48	M48	L1.5X1.5X3	.253	0	2	.003	1.156	y	1	13....	21.6	-...					H1-1
49	M49	L1.5X1.5X3	.087	0	2	.005	0	z	2	13....	21.6	-...					H1-1
50	M50	L1.5X1.5X3	.063	0	2	.001	0	y	1	13....	21.6	-...					H2-1
51	M51	L1.5X1.5X3	.141	0	2	.005	0	z	2	13....	21.6	-...					H1-1
52	M52	L1.5X1.5X3	.101	0	2	.002	0	y	1	13....	21.6	-...					H2-1
53	M53	L1.5X1.5X3	.108	0	2	.008	0	z	2	6.102	21.6	-...					H2-1
54	M54	L1.5X1.5X3	.138	3.82	2	.008	0	z	2	6.102	21.6	-...					H2-1
55	M55	L1.5X1.5X3	.009	0	2	.005	0	z	2	13....	21.6	-...					H1-1
56	M56	L1.5X1.5X3	.547	3.82	2	.001	0	y	1	6.102	21.6	-...					H1-1
57	M57	L1.5X1.5X3	.440	0	2	.001	0	y	1	6.102	21.6	-...					H1-1
58	M58	L1.5X1.5X3	.006	0	2	.001	0	y	1	13....	21.6	-...					H2-1
59	M59	L1.5X1.5X3	.152	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
60	M60	L1.5X1.5X3	.474	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
61	M61	L1.5X1.5X3	.027	3.532	2	.008	0	z	2	7.136	21.6	-...					H2-1
62	M62	L1.5X1.5X3	.012	3.532	2	.008	0	z	2	7.136	21.6	-...					H2-1
63	M63	L1.5X1.5X3	.143	3.532	2	.002	3.532	y	1	7.136	21.6	-...					H2-1
64	M64	L1.5X1.5X3	.500	3.532	2	.002	3.532	y	1	7.136	21.6	-...					H1-1
65	M65	L1.5X1.5X3	.090	0	2	.002	3.532	y	1	7.136	21.6	-...					H1-1
66	M66	L1.5X1.5X3	.044	0	2	.002	3.532	y	1	7.136	21.6	-...					H1-1
67	M67	L1.5X1.5X3	.029	0	2	.008	0	z	2	7.136	21.6	-...					H1-1
68	M68	L1.5X1.5X3	.042	3.532	2	.008	0	z	2	7.136	21.6	-...					H1-1
69	M69	L1.5X1.5X3	.132	3.532	2	.002	3.532	y	1	7.136	21.6	-...					H2-1
70	M70	L1.5X1.5X3	.436	3.532	2	.001	3.532	y	1	7.136	21.6	-...					H1-1
71	M71	L1.5X1.5X3	.133	3.532	2	.001	0	y	1	7.136	21.6	-...					H2-1
72	M72	L1.5X1.5X3	.433	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
73	M73	L1.5X1.5X3	.015	3.532	2	.001	0	y	1	7.136	21.6	-...					H2-1
74	M74	L1.5X1.5X3	.011	0	2	.002	0	y	1	7.136	21.6	-...					H2-1
75	M75	L1.5X1.5X3	.122	3.532	2	.001	0	y	1	7.136	21.6	-...					H2-1
76	M76	L1.5X1.5X3	.400	3.532	2	.001	0	y	1	7.136	21.6	-...					H1-1
77	M77	L1.5X1.5X3	.017	0	2	.002	0	y	1	7.136	21.6	-...					H1-1
78	M78	L1.5X1.5X3	.019	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
79	M79	L1.5X1.5X3	.411	3.532	2	.002	3.532	y	1	7.136	21.6	-...					H1-1
80	M80	L1.5X1.5X3	.119	3.532	2	.001	3.532	y	1	7.136	21.6	-...					H2-1
81	M81	L1.5X1.5X3	.006	3.532	2	.008	0	z	2	7.136	21.6	-...					H2-1
82	M82	L1.5X1.5X3	.005	0	2	.008	0	z	2	7.136	21.6	-...					H2-1
83	M83	L1.5X1.5X3	.004	3.532	2	.008	0	z	2	7.136	21.6	-...					H1-1
84	M84	L1.5X1.5X3	.005	0	1	.008	0	z	2	7.136	21.6	-...					H1-1
85	M85	L1.5X1.5X3	.102	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
86	M86	L1.5X1.5X3	.357	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
87	M87	L1.5X1.5X3	.002	3.532	1	.002	0	y	1	7.136	21.6	-...					H2-1
88	M88	L1.5X1.5X3	.002	0	1	.002	3.532	y	1	7.136	21.6	-...					H2-1
89	M89	L1.5X1.5X3	.106	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
90	M90	L1.5X1.5X3	.344	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1

Envelope AISC ASD Steel Code Checks (Continued)

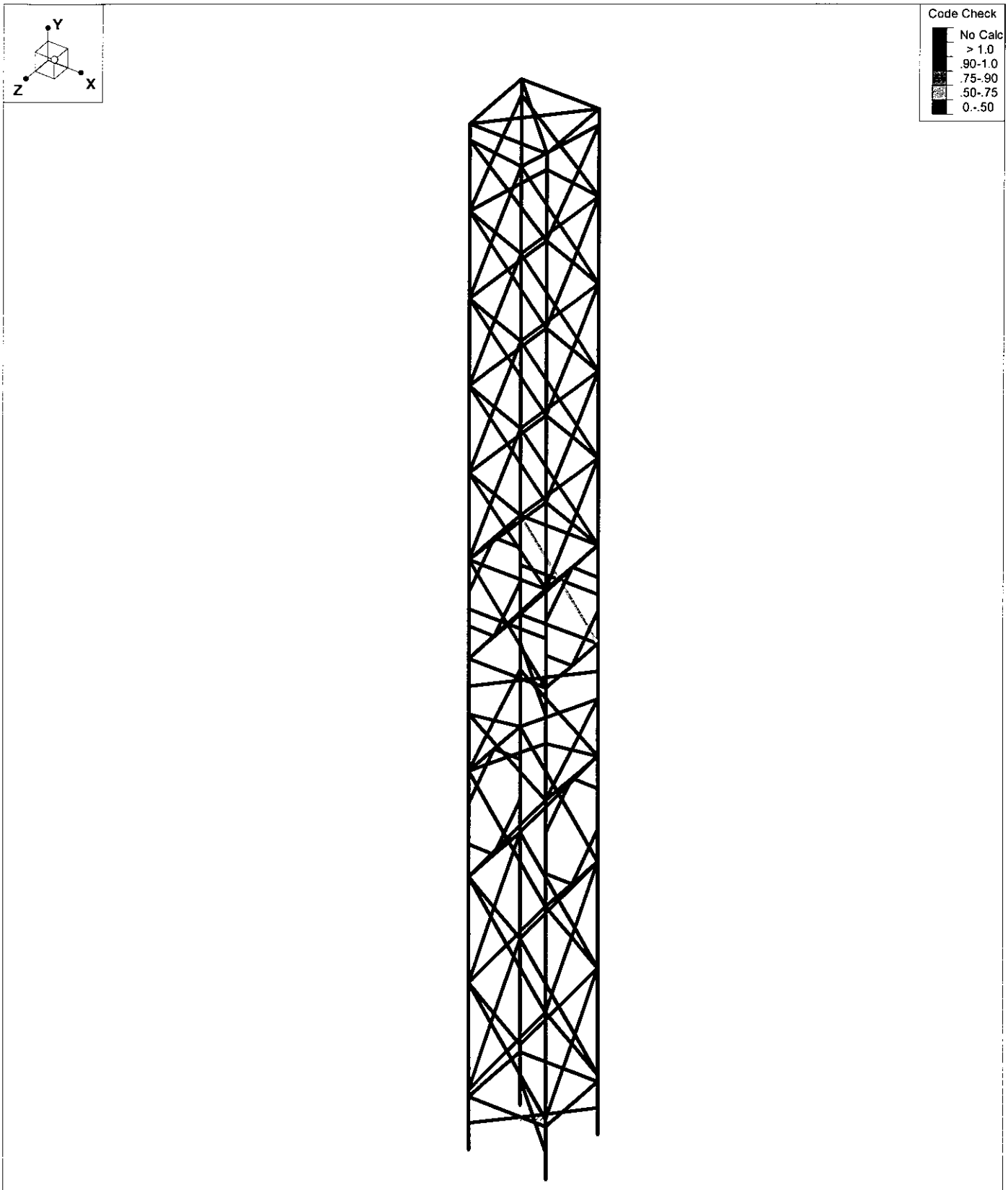
	Member	Shape	Code Check	Loc[ft]	lc	She...	Loc[ft]	...	lc	Fa [...	Ft [...	...	Fb ...	...	C...	C...	AS...
91	M91	L1.5X1.5X3	.001	3.171	2	.009	3.171	z	2	8.853	21.6	-...					H2-1
92	M92	L1.5X1.5X3	.003	3.171	1	.009	3.171	z	2	8.853	21.6	-...					H1-1
93	M93	L1.5X1.5X3	.112	3.171	2	.003	0	y	1	8.853	21.6	-...					H2-1
94	M94	L1.5X1.5X3	.291	3.171	2	.002	3.171	y	1	8.853	21.6	-...					H1-1
95	M95	L1.5X1.5X3	.003	3.171	1	.004	0	y	1	8.853	21.6	-...					H1-1
96	M96	L1.5X1.5X3	.001	3.171	1	.004	0	y	1	8.853	21.6	-...					H2-1
97	M97	L1.5X1.5X3	.108	3.171	2	.002	0	y	1	8.853	21.6	-...					H2-1
98	M98	L1.5X1.5X3	.299	3.171	2	.003	0	y	1	8.853	21.6	-...					H1-1
99	M99	C6X8.2	.009	1.156	2	.001	0	z	2	18....	21.6	...	21.6	1	1	1	H1-3
100	M100	C6X8.2	.001	1.156	1	.001	0	y	1	18....	21.6	...	21.6	1	.6	1	H1-1
101	M101	C6X8.2	.001	1.156	1	.001	2.313	y	1	18....	21.6	...	21.6	1	.6	1	H2-1
102	M102	C6X8.2	.001	1.156	1	.001	2.313	y	1	18....	21.6	...	21.6	1	.6	1	H1-1
103	M103	L1.5X1.5X3	.011	0	2	.001	1.529	y	1	17....	21.6	-...					H2-1
104	M104	L1.5X1.5X3	.013	0	2	.001	0	y	1	17....	21.6	-...					H1-1
105	M105	L1.5X1.5X3	.019	0	2	.001	1.529	y	1	17....	21.6	-...					H1-1
106	M106	L1.5X1.5X3	.014	0	2	.001	0	y	1	17....	21.6	-...					H2-1
107	M107	L1.5X1.5X3	.019	0	2	.001	0	y	1	17....	21.6	-...					H1-1
108	M108	L1.5X1.5X3	.014	0	2	.001	0	y	1	17....	21.6	-...					H2-1
109	M109	L1.5X1.5X3	.013	1.529	2	.001	0	y	1	17....	21.6	-...					H1-1
110	M110	L1.5X1.5X3	.011	1.529	2	.001	1.529	y	1	17....	21.6	-...					H2-1
111	M111	L1.5X1.5X3	.304	1.529	2	.001	1.529	y	1	17....	21.6	-...					H1-1
112	M112	L1.5X1.5X3	.242	1.529	2	.001	0	y	1	17....	21.6	-...					H2-1
113	M113	L1.5X1.5X3	.266	0	2	.002	1.529	y	1	17....	21.6	-...					H1-1
114	M114	L1.5X1.5X3	.210	0	2	.002	1.529	y	1	17....	21.6	-...					H2-1
115	M115	L1.5X1.5X3	.304	1.529	2	.001	0	y	1	17....	21.6	-...					H1-1
116	M116	L1.5X1.5X3	.242	1.529	2	.001	0	y	1	17....	21.6	-...					H2-1
117	M117	L1.5X1.5X3	.266	0	2	.002	1.529	y	1	17....	21.6	-...					H1-1
118	M118	L1.5X1.5X3	.211	0	2	.002	0	y	1	17....	21.6	-...					H2-1

Joint Reactions

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N98	-.028	6.189	5.356	59.889	.027	-.185
2	1	N99	.028	1.146	.889	1.935	.002	-.187
3	1	Totals:	0	7.334	6.244			
4	1	COG (ft):	X: 1.156	Y: 22.121	Z: 1.156			

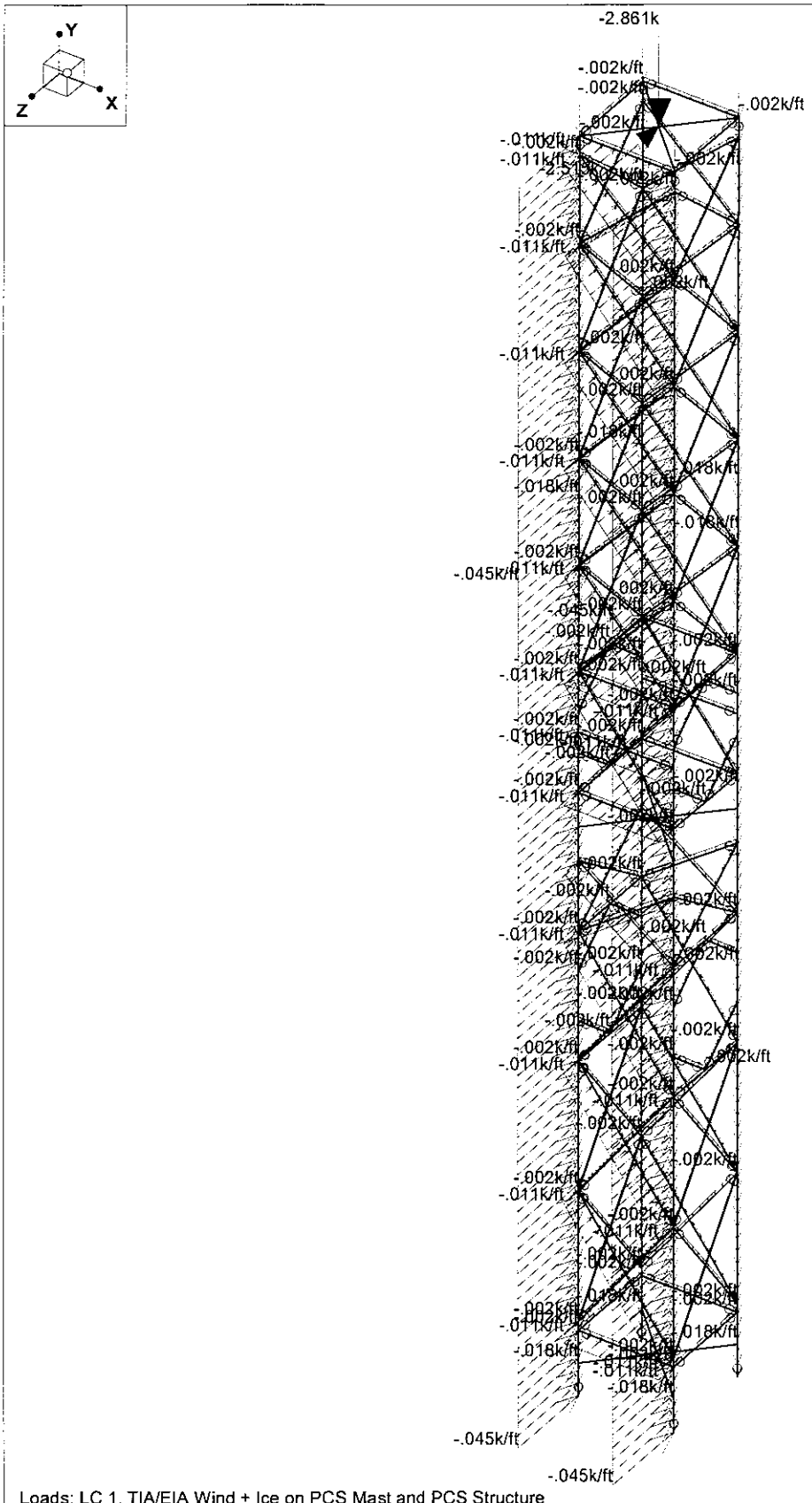
Joint Reactions

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	2	N98	-.032	3.597	6.143	68.305	-.003	-.211
2	2	N99	.032	.672	1.018	2.223	.003	-.214
3	2	Totals:	0	4.269	7.16			
4	2	COG (ft):	X: 1.156	Y: 23.292	Z: 1.156			



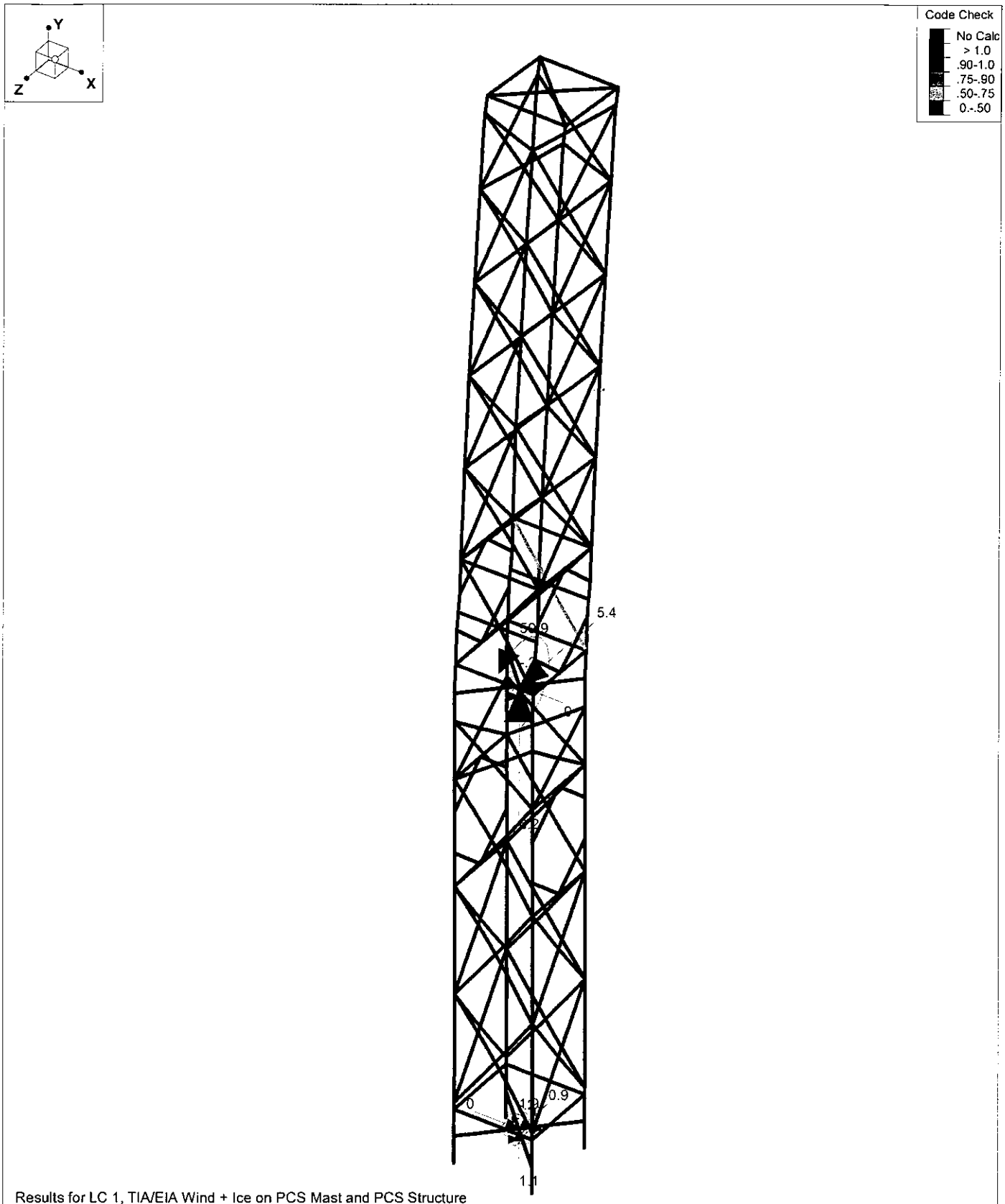
Solution: Envelope
Reaction units are k and k-ft

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 20, 2009 at 5:04 PM
08174.CO.06	Unity Check	EIA-TIA.r3d



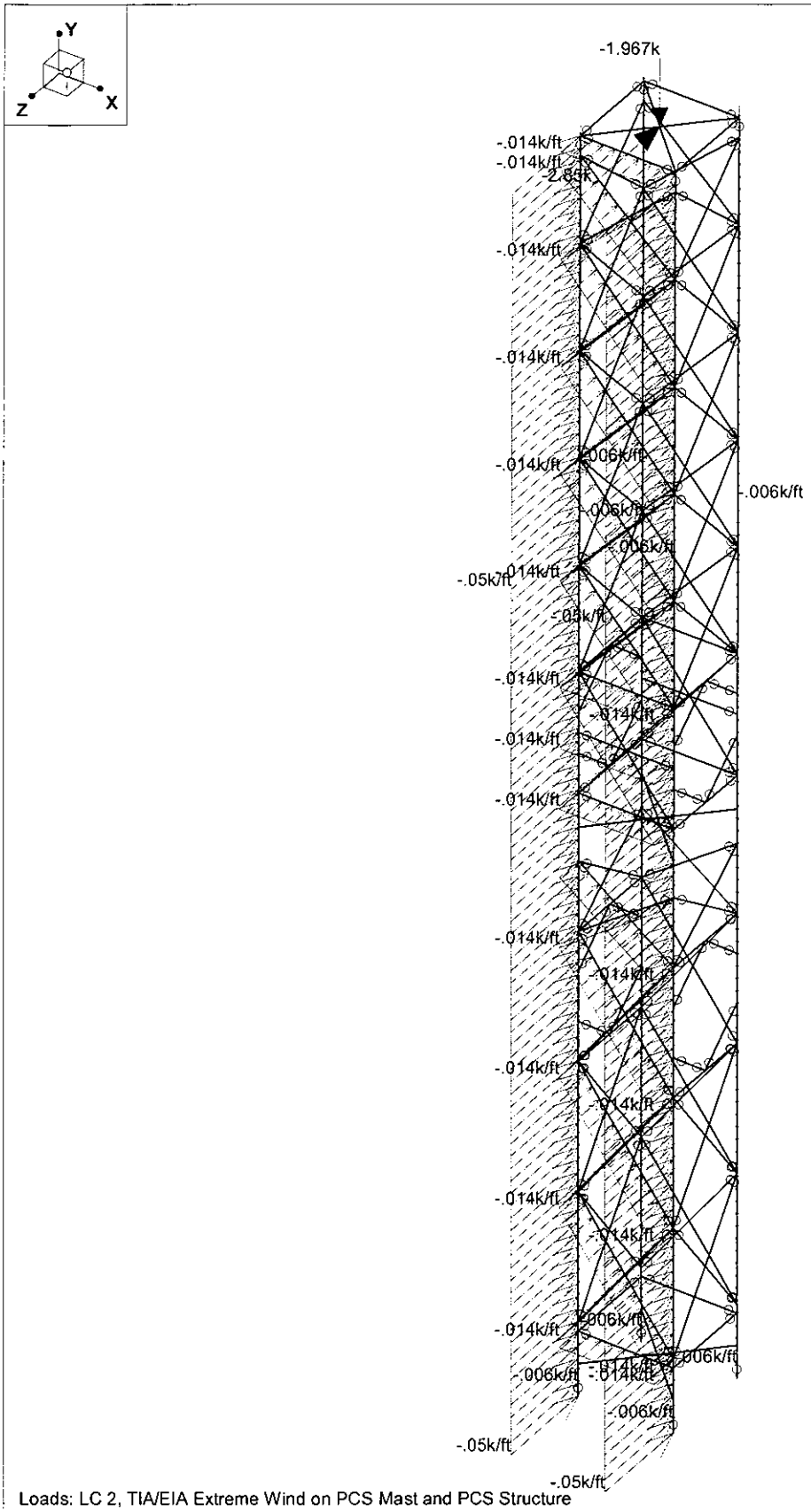
Loads: LC 1, TIA/EIA Wind + Ice on PCS Mast and PCS Structure

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 20, 2009 at 5:05 PM
08174.CO.06	LC #1 Loads	EIA-TIA.r3d



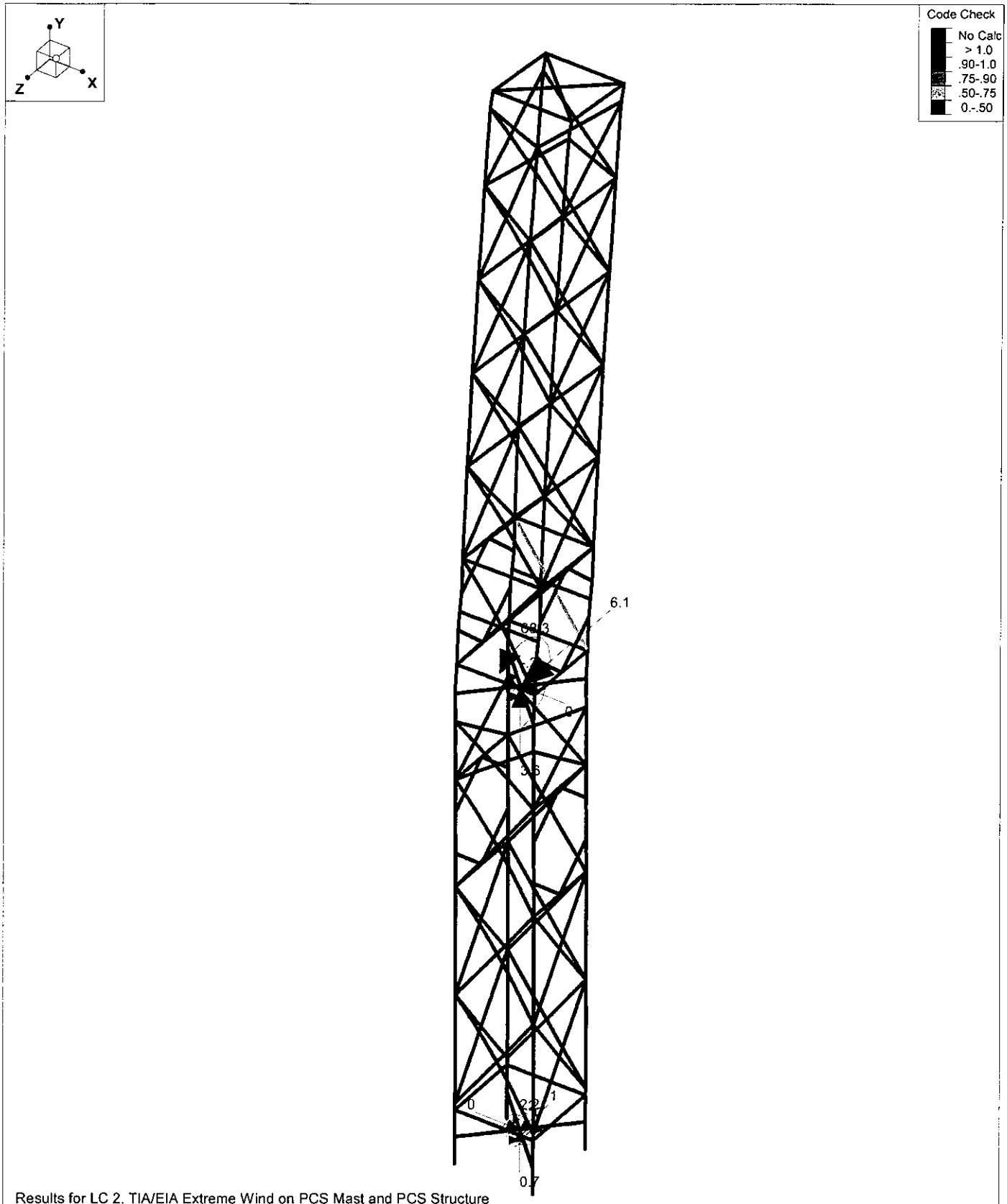
Results for LC 1, TIA/EIA Wind + Ice on PCS Mast and PCS Structure
Reaction units are k and k-ft

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 20, 2009 at 5:08 PM
08174.CO.06	LC #1 Reactions and Deflected Shape	EIA-TIA.r3d



Loads: LC 2, TIA/EIA Extreme Wind on PCS Mast and PCS Structure

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 20, 2009 at 5:06 PM
08174.CO.06	LC # 2 Loads	EIA-TIA.r3d



Results for LC 2, TIA/EIA Extreme Wind on PCS Mast and PCS Structure
Reaction units are k and k-ft

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 20, 2009 at 5:09 PM
08174.CO.06	LC #2 Reactions and Deflected Shape	EIA-TIA.r3d

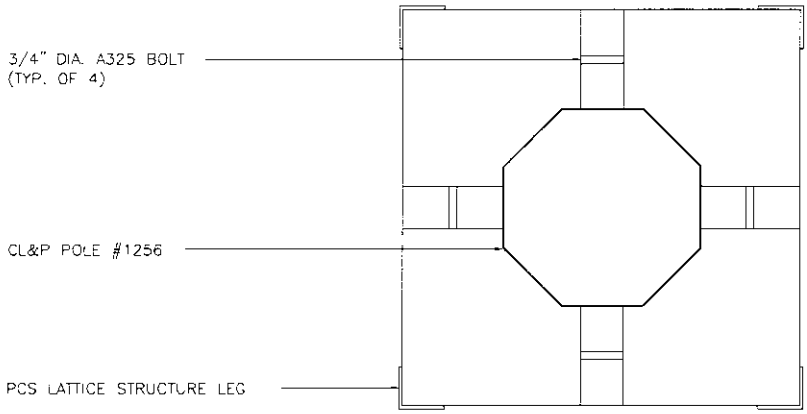
NATCOMM INC.
CONSULTING ENGINEERS
p: 203.488.0580 f: 203.488.8587 e: mail@nat-engr.com
63-2 N. Branford Rd., Branford, CT 06405

Subject:	PCS Lattice Structure Connection to CL&P Pole #1256
Location:	Greenwich, CT
Rev. 0: 4/30/09	Prepared by: T.J.L. Checked by: C.F.C. Job No. 08174-CO.6

PCS Lattice Structure Connection:

Design Basis:

The lattice structure connection to the CL&P structure is based on the design done by Paul J. Ford and Company job no. 36500-011 sheet S-1 - S-4 - dated 10-10-200.
The (4) A325 3/4" diameter bolts will be checked for both tension and compresion.
All (4) bolts will be considered to resist the shear force developed from the weight of the lattice structure, antennas, platform and misc.
Only (2) bolts will be considered to resist the tension force developed from wind based on the orientation of the bolts and direction the wind is blowing on the structure.
The lattice structure is assumed to be fixed at the top and bottom connections.



Reactions at Connection:

Horizontal =	Horizontal := 6.5·kips
Vertical =	Vertical := 6.0·kips
Moment =	Moment := 0·kips·ft

Bolt Data:

Bolt Grade =	A325
Number of Bolts, nb =	$n_b := 4$
Bolt Diameter, db =	$d_b := 0.75in$
Bolt Area, ab =	$a_b := \frac{1}{4}\cdot\pi\cdot d_b^{\,2} = 0.442\cdot in^2$
Coefficient of Friction =	$\mu_f := 0.25$
Allowable Tensile Stress, Ftall =	$F_{t.all} := 45\cdot ksi$
Allowable Shear Stress, Fvall =	$F_{v.all} := 24\cdot ksi$

Check Bolt Stresses:

Tension Force Each Bolt = $F_{tension.bolt} := \frac{Horizontal}{\left(\frac{n_b}{2}\right)} = 3.25 \cdot kips$

Tension Stress Each Bolt = $F_{t.act} := \frac{F_{tension.bolt}}{a_b} = 7.4 \cdot ksi$

$Condition1 := if\left(F_{t.act} < F_{t.all}, "OK", "Overstressed"\right)$

Condition1 = "OK"

Shear Force Each Bolt = $F_{shear.bolt} := \frac{Vertical}{n_b} = 1.5 \cdot kips$

Shear Stress Each Bolt = $F_{v.act} := \frac{F_{shear.bolt}}{a_b} = 3.4 \cdot ksi$

$Condition2 := if\left(F_{v.act} < F_{v.all}, "OK", "Overstressed"\right)$

Condition2 = "OK"

NATCOMM ENG
CONSULTING ENGINEERS
p: 203.488.0580 f: 203.488.3587 www.nat-eng.com
63-2 N. Branford Rd., Branford, CT 06405

Subject:	Load Analysis of PCS Lattice Structure on CL&P Pole #1256
Location:	Greenwich, CT
Rev. 0: 4/27/08	Prepared by: T.J.L Checked by: C.F.C. Job No. 08174.CO.6

Basic Components

Heavy Wind Pressure =	p := 4.00	psf	(NESC 2007 Figure 250-1 & Table 250-1)
Basic Windspeed =	V := 110	mph	(NESC 2007 Figure 250-2(e))
Radial Ice Thickness =	tr := 0.50	in	
Radial Ice Density =	ld := 56.0	pcf	

Factors for Extreme Wind Calculation

Elevation of Top of PCS Structure Above Grade =	TME := 110	ft	
Multiplier Gust Response Factor =	m := 1.25		(Only for NESC Extreme case NU criteria)
NESC Factor =	kv := 1.43		(NESC 2007 Table 250-3 equation)
Importance Factor =	I := 1.0		(NESC Section 250.C.2)

Velocity Pressure Coefficient = $Kz := 2.01 \cdot \left(0.67 \cdot \frac{TME}{900}\right)^{\frac{2}{9.5}} = 1.187$ (NESC 2007 Table 250-2)

Exposure Factor = $Es := 0.346 \left[\frac{33}{(0.67 \cdot TME)}\right]^{\frac{1}{7}} = 0.308$ (NESC 2007 Table 250-3)

Response Term = $Bs := \frac{1}{\left(1 + 0.375 \cdot \frac{TME}{220}\right)} = 0.842$ (NESC 2007 Table 250-3)

Gust Response Factor = $Grf := \frac{\left[1 + \left(2.7 \cdot Es \cdot Bs^{\frac{1}{2}}\right)\right]}{kv^2} = 0.863$ (NESC 2007 Table 250-3)

Wind Pressure = $qz := 0.00256 \cdot Kz \cdot V^2 \cdot Grf \cdot I = 31.7$ psf (NESC 2007 Section 250.C.2)

Shape Factors

NUS Design Criteria Issued April 12, 2007

Shape Factor for Round Members =	$Cd_R := 1.3$
Shape Factor for Flat Members =	$Cd_F := 1.6$
Shape Factor for Coax Cables Attached to Outside of Pole =	$Cd_{coax} := 1.45$

Overload Factors

NU Design Criteria Table

Overload Factors for Wind Loads:

NESC Heavy Loading =	**2.5**	Apply in Risa-3D Analysis
NESC Extreme Loading =	**1.0**	Apply in Risa-3D Analysis

Overload Factors for Vertical Loads:

NESC Heavy Loading =	**1.5**	Apply in Risa-3D Analysis
NESC Extreme Loading =	**1.0**	Apply in Risa-3D Analysis

Development of Wind & Ice Load on L3.5x3.5x5/16

L3.5x3.5x5/16 Data:

Shape = Flat

Length = $L := 32$ ft

Width = $b := 3.5$ in

Thickness = $t := 0.3125$ in

Member Cross Sectional Area = $A_{member} := 2.09$ in^2

Gravity Loads (without Ice)

Weight of the Member = Self Weight **(Computed internally by Risa-3D)** plf **BLC 1**

Gravity Loads (ice only)

Ice Area per Linear Foot = $Ai_{member} := (b - t)(t + 2 \cdot Ir) + (b + 2 \cdot Ir)(t + 2 \cdot Ir) - A_{member} = 8$

Weight of Ice on Member = $W_{ICE\_member} := Id \cdot \frac{Ai_{member}}{144} = 3$ plf **BLC 3**

Wind Load (NESC Extreme)

Member Projected Surface Area = $A_{member} := \frac{b}{12} = 0.292$ ft

Total Member Wind Force (Above Top of CL&P Pole) = $F_{mem} := qz \cdot Cd_F \cdot A_{member} \cdot m = 19$ plf **BLC 5**

Total Member Wind Force (Below Top of CL&P Pole) = $F_{mem} := qz \cdot Cd_F \cdot A_{member} = 15$ plf **BLC 5**

Wind Load (NESC Heavy)

Member Projected Surface Area w/ Ice = $AICE_{member} := \frac{(b + 2 \cdot Ir)}{12} = 0.375$ ft

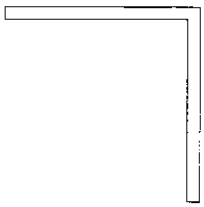
Total Member Wind Force w/ Ice = $Fi_{mem} := p \cdot Cd_F \cdot AICE_{member} = 2$ plf **BLC 4**

NATCOMM ENG. CONSULTING ENGINEERS
p: 203.488.0580 f: 203.488.8587 e: nat-eng.com
63-2 N. Branford Rd., Branford, CT 06405

Subject:	Load Analysis of PCS Lattice Structure on CL&P Pole #1256
Location:	Greenwich, CT
Rev. 0: 4/27/08	Prepared by: T.J.L Checked by: C.F.C. Job No. 08174.CO.6

Development of Wind & Ice Load on L1.5x1.5x3/16

L1.5x1.5x3/16 Data:



Shape =	Flat	
Length =	$L := 4$	ft
Width =	$b := 1.5$	in
Thickness =	$t := 0.1875$	in
Member Cross Sectional Area =	$A_{member} := 0.527$	in^2

Gravity Loads (without ice)

Weight of the Member = Self Weight **(Computed internally by Risa-3D)** plf **BLC 1**

Gravity Loads (ice only)

Ice Area per Linear Foot = $Ai_{member} := (b - t)(t + 2 \cdot lr) + (b + 2 \cdot lr)(t + 2 \cdot lr) - A_{member} = 4$

Weight of Ice on Member = $W_{ICE\_member} := Id \cdot \frac{Ai_{member}}{144} = 2$ plf **BLC 3**

Wind Load (NESC Extreme)

Member Projected Surface Area = $A_{member} := \frac{b}{12} = 0.125$ ft

Total Member Wind Force (Above Top of CL&P Pole) = $F_{mem} := qz \cdot Cd_F \cdot A_{member} \cdot m = 8$ plf **BLC 5**

Total Member Wind Force (Below Top of CL&P Pole) = $F_{mem} := qz \cdot Cd_F \cdot A_{member} = 6$ plf **BLC 5**

Wind Load (NESC Heavy)

Member Projected Surface Area w/ Ice = $AICE_{member} := \frac{(b + 2 \cdot lr)}{12} = 0.208$ ft

Total Member Wind Force w/ Ice = $Fi_{mem} := p \cdot Cd_F \cdot AICE_{member} = 1$ plf **BLC 4**

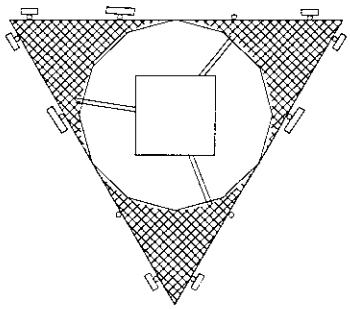
NATCOMM INC.
CONSULTING ENGINEERS
p: 203.488.0580 f: 203.488.8587 w: nat-eng.com
63-2 N. Branford Rd., Branford, CT 06405

Subject:	Load Analysis of PCS Lattice Structure on CL&P Pole #1256
Location:	Greenwich, CT
Rev. 0: 4/27/08	Prepared by: T.J.L Checked by: C.F.C. Job No. 08174.CO.6

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	RFS APX16DWV-DWVS-E-A20		
Antenna Shape =	Flat		
Antenna Height =	$L_{ant} := 55.9$	in	
Antenna Width =	$W_{ant} := 13.0$	in	
Antenna Thickness =	$T_{ant} := 3.15$	in	
Antenna Weight =	$WT_{ant} := 40.7$	lbs	
Number of Antennas =	$N_{ant} := 3$		



Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure on Antennas

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 5$	sf	
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 15.1$	sf	
Total Antenna Wind Force =	$F_{ant} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 960$	lbs	**BLC 5**

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure on Antennas

Surface Area for One Antenna w/ Ice =	$SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 5.5$	sf	
Antenna Projected Surface Area w/ Ice =	$A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 16.6$	sf	
Total Antenna Wind Force w/ Ice =	$Fi_{ant} := p \cdot Cd_F \cdot A_{ICEant} = 106$	lbs	**BLC 4**

Gravity Load (without ice)

Weight of All Antennas =	$WT_{ant} \cdot N_{ant} = 122$	lbs	**BLC 2**

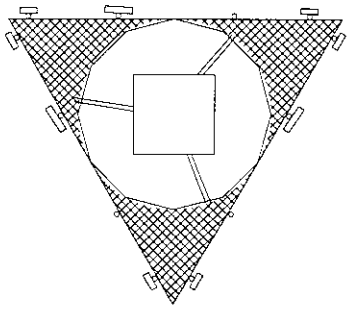
Gravity Load (ice only)

Volume of Each Antenna =	$V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 2289$	cu in	
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 1017$	cu in	
Weight of Ice on Each Antenna =	$W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 33$	lbs	
Weight of Ice on All Antennas =	$W_{ICEant} \cdot N_{ant} = 99$	lbs	**BLC 3**

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	EMS RR90-17-02DP	
Antenna Shape =	Flat	
Antenna Height =	$L_{ant2} := 56$	in
Antenna Width =	$W_{ant2} := 8$	in
Antenna Thickness =	$T_{ant2} := 2.75$	in
Antenna Weight =	$WT_{ant2} := 13.5$	lbs
Number of Antennas =	$N_{ant2} := 6$	



Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure on Antennas

Surface Area for One Antenna =	$SA_{ant2} := \frac{L_{ant2} \cdot W_{ant2}}{144} = 3.1$	sf	
Antenna Projected Surface Area =	$A_{ant2} := SA_{ant2} \cdot N_{ant2} = 18.7$	sf	
Total Antenna Wind Force =	$F_{ant2} := qz \cdot Cd_F \cdot A_{ant2} \cdot m = 1184$	lbs	**BLC 5**

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure on Antennas

Surface Area for One Antenna w/ Ice =	$SA_{ICEant2} := \frac{(L_{ant2} + 1) \cdot (W_{ant2} + 1)}{144} = 3.6$	sf	
Antenna Projected Surface Area w/ Ice =	$A_{ICEant2} := SA_{ICEant2} \cdot N_{ant2} = 21.4$	sf	
Total Antenna Wind Force w/ Ice =	$Fi_{ant2} := p \cdot Cd_F \cdot A_{ICEant2} = 137$	lbs	**BLC 4**

Gravity Load (without ice)

Weight of All Antennas =	$WT_{ant2} \cdot N_{ant2} = 81$	lbs	**BLC 2**

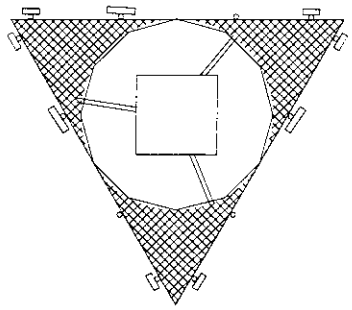
Gravity Load (ice only)

Volume of Each Antenna =	$V_{ant2} := L_{ant2} \cdot W_{ant2} \cdot T_{ant2} = 1232$	cu in	
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant2} + 1)(W_{ant2} + 1) \cdot (T_{ant2} + 1) - V_{ant2} = 692$	cu in	
Weight of Ice on Each Antenna =	$W_{ICEant2} := \frac{V_{ice}}{1728} \cdot Id = 22$	lbs	
Weight of Ice on All Antennas =	$W_{ICEant2} \cdot N_{ant2} = 135$	lbs	**BLC 3**

Development of Wind & Ice Load on Platform

Platform Data:

Platform Model = Comscope 12'-6" Platform w/ (12) 72" Mounting Pipes



Platform Shape = Flat

(Force Coefficient Value Included in Area) Platform Area = $A_{plt} := 15.6$ sq ft

(Force Coefficient Value Included in Area) Platform Area w/ Ice = $A_{ICEplt} := 19.4$ sq ft

Platform Weight = $WT_{plt} := 1628$ lbs

Platform Weight w/ Ice = $WT_{ICEplt} := 2116$ lbs

Wind Load (NESC Extreme)

Total Platform Wind Force = $F_{plt} := qz \cdot A_{plt} \cdot m = 619$ lbs **BLC 5**

Wind Load (NESC Heavy)

Total Platform Wind Force w/ Ice = $Fi_{plt} := p \cdot A_{ICEplt} = 78$ lbs **BLC 4**

Gravity Load (without ice)

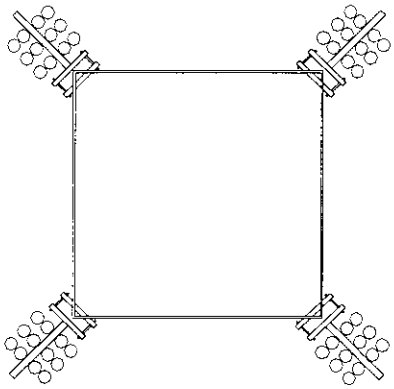
Weight of Platform = $WT_{plt} = 1628$ lbs **BLC 2**

Gravity Load (ice only)

Weight of Ice on Platform = $WT_{ICEplt} - WT_{plt} = 488$ lbs **BLC 3**

Development of Wind & Ice Load on Coax Cables

Coax Cable Data:



Coax Type =	HELIAX 1-5/8"		
Shape =	Round		
Coax Outside Diameter =	$D_{coax} := 1.98$	in	
Coax Cable Length =	$L_{coax} := 32$	ft	
Weight of Coax per foot =	$Wt_{coax} := 1.04$	plf	
Total Number of Coax =	$N_{coax} := 24$		
No. of Coax Projecting Outside Face of PCS Structure =	$NP_{coax} := 6$		

Wind Load (NESC Extreme)

Coax projected surface area = $A_{coax} := \frac{(NP_{coax} D_{coax})}{12} = 0.99$ ft

Total Coax Wind Force (Above Top of CL&P Pole) = $F_{coax} := qz \cdot Cd_{coax} \cdot A_{coax} \cdot m = 57$ plf **BLC 5**

Total Coax Wind Force (Below Top of CL&P Pole) = $F_{coax} := qz \cdot Cd_{coax} \cdot A_{coax} = 46$ plf **BLC 5**

Wind Load (NESC Heavy)

Coax projected surface area w/ Ice = $AICE_{coax} := \frac{(NP_{coax} \cdot D_{coax} + 2 \cdot Ir)}{12} = 1.1$ ft

Total Coax Wind Force w/ Ice = $Fi_{coax} := p \cdot Cd_{coax} \cdot AICE_{coax} = 6$ plf **BLC 4**

Gravity Loads (without Ice)

Weight of all cables w/o ice $WT_{coax} := Wt_{coax} \cdot N_{coax} = 25$ plf **BLC 2**

Gravity Loads (Ice only)

Ice Area per Linear Foot = $Ai_{coax} := \frac{\pi}{4}\left[\left(D_{coax} + 2 \cdot Ir\right)^2 - D_{coax}^2\right] = 3.9$ sq in

Ice Weight All Coax per foot = $WTi_{coax} := N_{coax} \cdot Id \cdot \frac{Ai_{coax}}{144} = 36$ plf **BLC 3**

NATCOMM, INC.	Subject:	**Analysis of NESC Heavy Wind and NESC Extreme Wind for Obtaining PCS Structure Reactions Applied to CL&P Pole Tabulated Load Cases**		
Consulting Engineers 63-2 North Branford Road Branford, CT 06405	Location:	**Greenwich, CT**		
Ph. 203-488-0580 / Fax. 203-488-8587	Date:4/27/09	Prepared by: T.J.L.	Checked by: C.F.C.	Job No. 08174.CO6

Load Case	Description
1	Self Weight (PCS Lattice Members)
2	Weight of Antennas, Platform and Coax Cables
3	Weight of Ice Only on PCS Structure [1]
4	NESC Heavy Wind on PCS Structure[1]
5	NESC Extreme Wind on PCS Structure[1]

Footnotes:

(1) PCS Structure includes: Lattice Members, Antennas, Platform and Coax Cable

NATCOMM, INC.
Consulting Engineers
63-2 North Branford Road
Branford, CT 06405
Ph. 203-488-0580 / Fax. 203-488-8587

Subject: **Analysis of NESC Heavy Wind and NESC Extreme Wind for Obtaining PCS Structure Reactions Applied to CL&P Pole Load Combinations Table**

Location: **Greenwich, CT**

Date: 4/27/09 Prepared by: T.J.L. Checked by: C.F.C. Job No. 08174.CO6

Load Combination	Description	Envelope Soultion	Wind Factor	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	NESC Heavy Wind on PCS Structure		1		1	1.5	2	1.5	3	1.5	4	2.5		
2	NESC Extreme Wind on PCS Structure		1		1	1	2	1	5	1				

Footnotes:
(1) BLC = Basic Load Case
(2) PCS Structure includes: lattice members, antennas, platform, coax cable, and miscellaneous hardware

Global

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation	Yes
Include Warping	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Vertical Axis	Y

Hot Rolled Steel Code	AISC: ASD 9th
Cold Formed Steel Code	AISI 99: ASD
Wood Code	NDS 91/97: ASD
Wood Temperature	< 100F
Concrete Code	ACI 2002

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	PCA Load Contour
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections	Yes
Bad Framing Warnings	No
Unused Force Warnings	Yes

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]
1	A36 Gr.36	29000	11154	.3	.65	.49	36
2	A572 Gr.50	29000	11154	.3	.65	.49	50
3	A992	29000	11154	.3	.65	.49	50
4	A500 Gr.42	29000	11154	.3	.65	.49	42
5	A500 Gr.46	29000	11154	.3	.65	.49	46
6	A53 Gr. B	29000	11154	.3	.65	.49	35

Hot Rolled Steel Design Parameters

	Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	Kyy	Kzz	Cm-yy	Cm-...	Cb	y sw...	z sw...	Function
1	M1	L3.5X3....	21.58	Segment	Segment										Lateral
2	M2	L3.5X3....	9.83	Segment	Segment										Lateral
3	M3	L3.5X3....	21.58	Segment	Segment										Lateral
4	M4	L3.5X3....	9.83	Segment	Segment										Lateral
5	M5	L3.5X3....	21.58	Segment	Segment										Lateral
6	M6	L3.5X3....	9.83	Segment	Segment										Lateral
7	M7	L3.5X3....	21.58	Segment	Segment										Lateral
8	M8	L3.5X3....	9.83	Segment	Segment										Lateral
9	M9	L1.5X1....	2.313												Lateral
10	M10	L1.5X1....	2.313												Lateral
11	M11	L1.5X1....	2.313												Lateral
12	M12	L1.5X1....	2.313												Lateral
13	M13	L1.5X1....	3.989												Lateral
14	M14	L1.5X1....	3.989												Lateral
15	M15	L1.5X1....	3.989												Lateral
16	M16	L1.5X1....	3.989												Lateral
17	M17	L1.5X1....	3.989												Lateral
18	M18	L1.5X1....	3.989												Lateral
19	M19	L1.5X1....	3.989												Lateral
20	M20	L1.5X1....	3.989												Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	Kyy	Kzz	Cm-yy	Cm-...	Cb	y sw...	z sw...	Function
21	M21	L1.5X1....	3.989												Lateral
22	M22	L1.5X1....	3.989												Lateral
23	M23	L1.5X1....	3.989												Lateral
24	M24	L1.5X1....	3.989												Lateral
25	M25	L1.5X1....	3.989												Lateral
26	M26	L1.5X1....	3.989												Lateral
27	M27	L1.5X1....	3.989												Lateral
28	M28	L1.5X1....	3.989												Lateral
29	M29	L1.5X1....	3.989												Lateral
30	M30	L1.5X1....	3.989												Lateral
31	M31	L1.5X1....	2.313												Lateral
32	M32	L1.5X1....	2.313												Lateral
33	M33	L1.5X1....	3.989												Lateral
34	M34	L1.5X1....	3.989												Lateral
35	M35	L1.5X1....	2.313												Lateral
36	M36	L1.5X1....	2.313												Lateral
37	M37	L1.5X1....	2.9												Lateral
38	M38	L1.5X1....	2.9												Lateral
39	M39	L1.5X1....	2.9												Lateral
40	M40	L1.5X1....	2.9												Lateral
41	M41	L1.5X1....	2.9												Lateral
42	M42	L1.5X1....	2.9												Lateral
43	M43	L1.5X1....	2.9												Lateral
44	M44	L1.5X1....	2.9												Lateral
45	M45	L1.5X1....	2.313												Lateral
46	M46	L1.5X1....	2.313												Lateral
47	M47	L1.5X1....	2.313												Lateral
48	M48	L1.5X1....	2.313												Lateral
49	M49	L1.5X1....	2.313												Lateral
50	M50	L1.5X1....	2.313												Lateral
51	M51	L1.5X1....	2.313												Lateral
52	M52	L1.5X1....	2.313												Lateral
53	M53	L1.5X1....	3.82												Lateral
54	M54	L1.5X1....	3.82												Lateral
55	M55	L1.5X1....	2.313												Lateral
56	M56	L1.5X1....	3.82												Lateral
57	M57	L1.5X1....	3.82												Lateral
58	M58	L1.5X1....	2.313												Lateral
59	M59	L1.5X1....	3.532												Lateral
60	M60	L1.5X1....	3.532												Lateral
61	M61	L1.5X1....	3.532												Lateral
62	M62	L1.5X1....	3.532												Lateral
63	M63	L1.5X1....	3.532												Lateral
64	M64	L1.5X1....	3.532												Lateral
65	M65	L1.5X1....	3.532												Lateral
66	M66	L1.5X1....	3.532												Lateral
67	M67	L1.5X1....	3.532												Lateral
68	M68	L1.5X1....	3.532												Lateral
69	M69	L1.5X1....	3.532												Lateral
70	M70	L1.5X1....	3.532												Lateral
71	M71	L1.5X1....	3.532												Lateral
72	M72	L1.5X1....	3.532												Lateral
73	M73	L1.5X1....	3.532												Lateral
74	M74	L1.5X1....	3.532												Lateral
75	M75	L1.5X1....	3.532												Lateral
76	M76	L1.5X1....	3.532												Lateral
77	M77	L1.5X1....	3.532												Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	Kyy	Kzz	Cm-yy	Cm-...	Cb	y sw...	z sw...	Function
78	M78	L1.5X1....	3.532												Lateral
79	M79	L1.5X1....	3.532												Lateral
80	M80	L1.5X1....	3.532												Lateral
81	M81	L1.5X1....	3.532												Lateral
82	M82	L1.5X1....	3.532												Lateral
83	M83	L1.5X1....	3.532												Lateral
84	M84	L1.5X1....	3.532												Lateral
85	M85	L1.5X1....	3.532												Lateral
86	M86	L1.5X1....	3.532												Lateral
87	M87	L1.5X1....	3.532												Lateral
88	M88	L1.5X1....	3.532												Lateral
89	M89	L1.5X1....	3.532												Lateral
90	M90	L1.5X1....	3.532												Lateral
91	M91	L1.5X1....	3.171												Lateral
92	M92	L1.5X1....	3.171												Lateral
93	M93	L1.5X1....	3.171												Lateral
94	M94	L1.5X1....	3.171												Lateral
95	M95	L1.5X1....	3.171												Lateral
96	M96	L1.5X1....	3.171												Lateral
97	M97	L1.5X1....	3.171												Lateral
98	M98	L1.5X1....	3.171												Lateral
99	M99	C6X8.2	2.313												Lateral
100	M100	C6X8.2	2.313												Lateral
101	M101	C6X8.2	2.313												Lateral
102	M102	C6X8.2	2.313												Lateral
103	M103	L1.5X1....	1.529												Lateral
104	M104	L1.5X1....	1.529												Lateral
105	M105	L1.5X1....	1.529												Lateral
106	M106	L1.5X1....	1.529												Lateral
107	M107	L1.5X1....	1.529												Lateral
108	M108	L1.5X1....	1.529												Lateral
109	M109	L1.5X1....	1.529												Lateral
110	M110	L1.5X1....	1.529												Lateral
111	M111	L1.5X1....	1.529												Lateral
112	M112	L1.5X1....	1.529												Lateral
113	M113	L1.5X1....	1.529												Lateral
114	M114	L1.5X1....	1.529												Lateral
115	M115	L1.5X1....	1.529												Lateral
116	M116	L1.5X1....	1.529												Lateral
117	M117	L1.5X1....	1.529												Lateral
118	M118	L1.5X1....	1.529												Lateral

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	L1.5X1.5X3/16	L1.5X1.5X3	Beam	Single Angle	A36 Gr.36	Typical	.527	.11	.11	.007
2	L3.5X3.5X5/16	L3.5X3.5X5	Beam	Single Angle	A36 Gr.36	Typical	2.09	2.45	2.45	.073
3	C6X8.2	C6X8.2	Beam	Channel	A36 Gr.36	Typical	2.4	.693	13.1	.08

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotat...	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N33	LC3			L3.5X3.5X5/16	Beam	Single An...	A36 Gr.36	Typical
2	M2	LC3	N48			L3.5X3.5X5/16	Beam	Single An...	A36 Gr.36	Typical
3	M3	N1	LC1			L3.5X3.5X5/16	Beam	Single An...	A36 Gr.36	Typical
4	M4	LC1	N16			L3.5X3.5X5/16	Beam	Single An...	A36 Gr.36	Typical
5	M5	N49	LC4			L3.5X3.5X5/16	Beam	Single An...	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotat...	Section/Shape	Type	Design List	Material	Design Rules
6	M6	LC4	N64			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
7	M7	N17	LC2			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
8	M8	LC2	N32			L3.5X3.5X5/16	Beam	Single An..	A36 Gr.36	Typical
9	M9	N2	N18			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
10	M10	N18	N50			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
11	M11	N50	N34			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
12	M12	N34	N2			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
13	M13	N3	N20			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
14	M14	N19	N4			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
15	M15	N19	N52			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
16	M16	N51	N20			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
17	M17	N51	N36			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
18	M18	N35	N52			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
19	M19	N35	N4			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
20	M20	N3	N36			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
21	M21	N4	N21			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
22	M22	N5	N20			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
23	M23	N20	N53			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
24	M24	N52	N21			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
25	M25	N52	N37			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
26	M26	N36	N53			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
27	M27	N36	N5			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
28	M28	N4	N37			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
29	M29	N37	N54			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
30	M30	N53	N38			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
31	M31	N53	N21			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
32	M32	N37	N5			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
33	M33	N5	N22			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
34	M34	N21	N6			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
35	M35	N54	N22			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
36	M36	N38	N6			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
37	M37	N6	N23			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
38	M38	N22	N7			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
39	M39	N54	N23			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
40	M40	N22	N55			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
41	M41	N38	N55			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
42	M42	N54	N39			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
43	M43	N38	N7			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
44	M44	N6	N39			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
45	M45	N56	N24			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
46	M46	N8	N40			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
47	M47	N58	N26			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
48	M48	N42	N10			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
49	M49	N40	N56			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
50	M50	N8	N24			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
51	M51	N42	N58			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
52	M52	N10	N26			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
53	M53	N42	N56			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
54	M54	N40	N58			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
55	M55	N41	N57			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
56	M56	N10	N24			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
57	M57	N8	N26			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
58	M58	N9	N25			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
59	M59	N58	N27			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
60	M60	N59	N26			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
61	M61	N58	N43			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
62	M62	N42	N59			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotat...	Section/Shape	Type	Design List	Material	Design Rules
63	M63	N42	N11			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
64	M64	N43	N10			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
65	M65	N10	N27			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
66	M66	N26	N11			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
67	M67	N43	N60			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
68	M68	N44	N59			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
69	M69	N59	N28			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
70	M70	N60	N27			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
71	M71	N43	N12			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
72	M72	N44	N11			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
73	M73	N11	N28			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
74	M74	N12	N27			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
75	M75	N44	N13			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
76	M76	N45	N12			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
77	M77	N12	N29			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
78	M78	N13	N28			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
79	M79	N61	N28			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
80	M80	N60	N29			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
81	M81	N44	N61			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
82	M82	N45	N60			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
83	M83	N46	N61			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
84	M84	N45	N62			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
85	M85	N45	N14			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
86	M86	N46	N13			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
87	M87	N13	N30			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
88	M88	N14	N29			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
89	M89	N61	N30			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
90	M90	N62	N29			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
91	M91	N46	N63			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
92	M92	N47	N62			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
93	M93	N46	N15			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
94	M94	N47	N14			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
95	M95	N15	N30			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
96	M96	N14	N31			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
97	M97	N62	N31			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
98	M98	N63	N30			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
99	M99	N48	N64			C6X8.2	Beam	Channel	A36 Gr.36	Typical
100	M100	N64	N32			C6X8.2	Beam	Channel	A36 Gr.36	Typical
101	M101	N32	N16			C6X8.2	Beam	Channel	A36 Gr.36	Typical
102	M102	N16	N48			C6X8.2	Beam	Channel	A36 Gr.36	Typical
103	M103	N79	N77			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
104	M104	N77	N75			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
105	M105	N80	N78			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
106	M106	N78	N76			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
107	M107	N74	N72			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
108	M108	N72	N70			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
109	M109	N69	N71			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
110	M110	N71	N73			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
111	M111	N91	N89			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
112	M112	N89	N87			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
113	M113	N88	N90			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
114	M114	N90	N92			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
115	M115	N85	N83			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
116	M116	N83	N81			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
117	M117	N82	N84			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
118	M118	N84	N86			L1.5X1.5X3/16	Beam	Single An..	A36 Gr.36	Typical
119	M119	N93	N99			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotat...	Section/Shape	Type	Design List	Material	Design Rules
120	M120	N94	N99			RIGID	None	None	RIGID	Typical
121	M121	N95	N99			RIGID	None	None	RIGID	Typical
122	M122	N96	N99			RIGID	None	None	RIGID	Typical
123	M123	N100	N98			RIGID	None	None	RIGID	Typical
124	M124	N101	N98			RIGID	None	None	RIGID	Typical
125	M125	N103	N98			RIGID	None	None	RIGID	Typical
126	M126	N102	N98			RIGID	None	None	RIGID	Typical
127	M127	N16	N97			RIGID	None	None	RIGID	Typical
128	M128	N32	N97			RIGID	None	None	RIGID	Typical
129	M129	N64	N97			RIGID	None	None	RIGID	Typical
130	M130	N48	N97			RIGID	None	None	RIGID	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
1	N1	0	0	0	0	
2	N2	0	1.61	0	0	
3	N3	0	1.82	0	0	
4	N4	0	5.07	0	0	
5	N5	0	8.32	0	0	
6	N6	0	11.57	0	0	
7	N7	0	13.32	0	0	
8	N8	0	15.03	0	0	
9	N9	0	16.55	0	0	
10	N10	0	18.07	0	0	
11	N11	0	20.74	0	0	
12	N12	0	23.41	0	0	
13	N13	0	26.08	0	0	
14	N14	0	28.75	0	0	
15	N15	0	30.92	0	0	
16	N16	0	31.41	0	0	
17	N17	2.3125	0	0	0	
18	N18	2.3125	1.61	0	0	
19	N19	2.3125	1.82	0	0	
20	N20	2.3125	5.07	0	0	
21	N21	2.3125	8.32	0	0	
22	N22	2.3125	11.57	0	0	
23	N23	2.3125	13.32	0	0	
24	N24	2.3125	15.03	0	0	
25	N25	2.3125	16.55	0	0	
26	N26	2.3125	18.07	0	0	
27	N27	2.3125	20.74	0	0	
28	N28	2.3125	23.41	0	0	
29	N29	2.3125	26.08	0	0	
30	N30	2.3125	28.75	0	0	
31	N31	2.3125	30.92	0	0	
32	N32	2.3125	31.41	0	0	
33	N33	0	0	2.3125	0	
34	N34	0	1.61	2.3125	0	
35	N35	0	1.82	2.3125	0	
36	N36	0	5.07	2.3125	0	
37	N37	0	8.32	2.3125	0	
38	N38	0	11.57	2.3125	0	
39	N39	0	13.32	2.3125	0	
40	N40	0	15.03	2.3125	0	
41	N41	0	16.55	2.3125	0	
42	N42	0	18.07	2.3125	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
43	N43	0	20.74	2.3125	0	
44	N44	0	23.41	2.3125	0	
45	N45	0	26.08	2.3125	0	
46	N46	0	28.75	2.3125	0	
47	N47	0	30.92	2.3125	0	
48	N48	0	31.41	2.3125	0	
49	N49	2.3125	0	2.3125	0	
50	N50	2.3125	1.61	2.3125	0	
51	N51	2.3125	1.82	2.3125	0	
52	N52	2.3125	5.07	2.3125	0	
53	N53	2.3125	8.32	2.3125	0	
54	N54	2.3125	11.57	2.3125	0	
55	N55	2.3125	13.32	2.3125	0	
56	N56	2.3125	15.03	2.3125	0	
57	N57	2.3125	16.55	2.3125	0	
58	N58	2.3125	18.07	2.3125	0	
59	N59	2.3125	20.74	2.3125	0	
60	N60	2.3125	23.41	2.3125	0	
61	N61	2.3125	26.08	2.3125	0	
62	N62	2.3125	28.75	2.3125	0	
63	N63	2.3125	30.92	2.3125	0	
64	N64	2.3125	31.41	2.3125	0	
65	LC1	0	21.58	0	0	
66	LC2	2.3125	21.58	0	0	
67	LC3	0	21.58	2.3125	0	
68	LC4	2.3125	21.58	2.3125	0	
69	N69	0	9.32	0	0	
70	N70	0	10.57	0	0	
71	N71	0	8.32	1.1563	0	
72	N72	0	11.57	1.1563	0	
73	N73	0	9.32	2.3125	0	
74	N74	0	10.57	2.3125	0	
75	N75	2.3125	9.32	0	0	
76	N76	2.3125	10.57	0	0	
77	N77	2.3125	8.32	1.1563	0	
78	N78	2.3125	11.57	1.1563	0	
79	N79	2.3125	9.32	2.3125	0	
80	N80	2.3125	10.57	2.3125	0	
81	N81	0	16.03	0	0	
82	N82	0	17.07	0	0	
83	N83	0	15.03	1.1563	0	
84	N84	0	18.07	1.1563	0	
85	N85	0	16.03	2.3125	0	
86	N86	0	17.07	2.3125	0	
87	N87	2.3125	16.03	0	0	
88	N88	2.3125	17.07	0	0	
89	N89	2.3125	15.03	1.1563	0	
90	N90	2.3125	18.07	1.1563	0	
91	N91	2.3125	16.03	2.3125	0	
92	N92	2.3125	17.07	2.3125	0	
93	N93	0	.81	0	0	
94	N94	2.3125	.81	0	0	
95	N95	0	.81	2.3125	0	
96	N96	2.3125	.81	2.3125	0	
97	N97	1.1563	31.41	1.1563	0	
98	N98	1.1563	14.18	1.1563	0	
99	N99	1.1563	.81	1.1563	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Dia...
100	N100	0	14.18	0	0	
101	N101	2.3125	14.18	0	0	
102	N102	0	14.18	2.3125	0	
103	N103	2.3125	14.18	2.3125	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]	Footing
1	N99	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction	
2	N98	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction	

Joint Loads and Enforced Displacements (BLC 2 : Weight of Antennas, TMA's, Mount)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*ft...
1	N97	L	Y	-.122
2	N97	L	Y	-.081
3	N97	L	Y	-1.628

Joint Loads and Enforced Displacements (BLC 3 : Weight of Ice Only on PCS Struct)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*ft...
1	N97	L	Y	-.099
2	N97	L	Y	-.135
3	N97	L	Y	-.488

Joint Loads and Enforced Displacements (BLC 4 : NESC Heavy Wind on PCS Structure)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*ft...
1	N97	L	Z	-.106
2	N97	L	Z	-.137
3	N97	L	Z	-.078

Joint Loads and Enforced Displacements (BLC 5 : NESC Extreme Wind on PCS Structu)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*ft...
1	N97	L	Z	-.96
2	N97	L	Z	-1.184
3	N97	L	Z	-.619

Member Distributed Loads (BLC 2 : Weight of Antennas, TMA's, Mount)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M2	Y	-.006	-.006	0	0
2	M1	Y	-.006	-.006	0	0
3	M6	Y	-.006	-.006	0	0
4	M5	Y	-.006	-.006	0	0
5	M4	Y	-.006	-.006	0	0
6	M3	Y	-.006	-.006	0	0
7	M8	Y	-.006	-.006	0	0
8	M7	Y	-.006	-.006	0	0

Member Distributed Loads (BLC 3 : Weight of Ice Only on PCS Struct)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M9	Y	-.002	-.002	0	0
2	M10	Y	-.002	-.002	0	0
3	M11	Y	-.002	-.002	0	0
4	M12	Y	-.002	-.002	0	0

Member Distributed Loads (BLC 3 : Weight of Ice Only on PCS Struct) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
5	M13	Y	-.002	-.002	0	0
6	M14	Y	-.002	-.002	0	0
7	M15	Y	-.002	-.002	0	0
8	M16	Y	-.002	-.002	0	0
9	M17	Y	-.002	-.002	0	0
10	M18	Y	-.002	-.002	0	0
11	M19	Y	-.002	-.002	0	0
12	M20	Y	-.002	-.002	0	0
13	M21	Y	-.002	-.002	0	0
14	M22	Y	-.002	-.002	0	0
15	M23	Y	-.002	-.002	0	0
16	M24	Y	-.002	-.002	0	0
17	M25	Y	-.002	-.002	0	0
18	M26	Y	-.002	-.002	0	0
19	M27	Y	-.002	-.002	0	0
20	M28	Y	-.002	-.002	0	0
21	M29	Y	-.002	-.002	0	0
22	M30	Y	-.002	-.002	0	0
23	M31	Y	-.002	-.002	0	0
24	M32	Y	-.002	-.002	0	0
25	M33	Y	-.002	-.002	0	0
26	M34	Y	-.002	-.002	0	0
27	M35	Y	-.002	-.002	0	0
28	M36	Y	-.002	-.002	0	0
29	M37	Y	-.002	-.002	0	0
30	M38	Y	-.002	-.002	0	0
31	M39	Y	-.002	-.002	0	0
32	M40	Y	-.002	-.002	0	0
33	M41	Y	-.002	-.002	0	0
34	M42	Y	-.002	-.002	0	0
35	M43	Y	-.002	-.002	0	0
36	M44	Y	-.002	-.002	0	0
37	M45	Y	-.002	-.002	0	0
38	M46	Y	-.002	-.002	0	0
39	M47	Y	-.002	-.002	0	0
40	M48	Y	-.002	-.002	0	0
41	M49	Y	-.002	-.002	0	0
42	M50	Y	-.002	-.002	0	0
43	M51	Y	-.002	-.002	0	0
44	M52	Y	-.002	-.002	0	0
45	M53	Y	-.002	-.002	0	0
46	M54	Y	-.002	-.002	0	0
47	M55	Y	-.002	-.002	0	0
48	M56	Y	-.002	-.002	0	0
49	M57	Y	-.002	-.002	0	0
50	M58	Y	-.002	-.002	0	0
51	M59	Y	-.002	-.002	0	0
52	M60	Y	-.002	-.002	0	0
53	M61	Y	-.002	-.002	0	0
54	M62	Y	-.002	-.002	0	0
55	M63	Y	-.002	-.002	0	0
56	M64	Y	-.002	-.002	0	0
57	M65	Y	-.002	-.002	0	0
58	M66	Y	-.002	-.002	0	0
59	M67	Y	-.002	-.002	0	0
60	M68	Y	-.002	-.002	0	0
61	M69	Y	-.002	-.002	0	0

Member Distributed Loads (BLC 3 : Weight of Ice Only on PCS Struct) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
62	M70	Y	-.002	-.002	0	0
63	M71	Y	-.002	-.002	0	0
64	M72	Y	-.002	-.002	0	0
65	M73	Y	-.002	-.002	0	0
66	M74	Y	-.002	-.002	0	0
67	M75	Y	-.002	-.002	0	0
68	M76	Y	-.002	-.002	0	0
69	M77	Y	-.002	-.002	0	0
70	M78	Y	-.002	-.002	0	0
71	M79	Y	-.002	-.002	0	0
72	M80	Y	-.002	-.002	0	0
73	M81	Y	-.002	-.002	0	0
74	M82	Y	-.002	-.002	0	0
75	M83	Y	-.002	-.002	0	0
76	M84	Y	-.002	-.002	0	0
77	M85	Y	-.002	-.002	0	0
78	M86	Y	-.002	-.002	0	0
79	M87	Y	-.002	-.002	0	0
80	M88	Y	-.002	-.002	0	0
81	M89	Y	-.002	-.002	0	0
82	M90	Y	-.002	-.002	0	0
83	M91	Y	-.002	-.002	0	0
84	M92	Y	-.002	-.002	0	0
85	M93	Y	-.002	-.002	0	0
86	M94	Y	-.002	-.002	0	0
87	M95	Y	-.002	-.002	0	0
88	M96	Y	-.002	-.002	0	0
89	M97	Y	-.002	-.002	0	0
90	M98	Y	-.002	-.002	0	0
91	M99	Y	-.002	-.002	0	0
92	M100	Y	-.002	-.002	0	0
93	M101	Y	-.002	-.002	0	0
94	M102	Y	-.002	-.002	0	0
95	M103	Y	-.002	-.002	0	0
96	M104	Y	-.002	-.002	0	0
97	M105	Y	-.002	-.002	0	0
98	M106	Y	-.002	-.002	0	0
99	M107	Y	-.002	-.002	0	0
100	M108	Y	-.002	-.002	0	0
101	M109	Y	-.002	-.002	0	0
102	M110	Y	-.002	-.002	0	0
103	M111	Y	-.002	-.002	0	0
104	M112	Y	-.002	-.002	0	0
105	M113	Y	-.002	-.002	0	0
106	M114	Y	-.002	-.002	0	0
107	M115	Y	-.002	-.002	0	0
108	M116	Y	-.002	-.002	0	0
109	M117	Y	-.002	-.002	0	0
110	M118	Y	-.002	-.002	0	0
111	M1	Y	-.003	-.003	0	0
112	M2	Y	-.003	-.003	0	0
113	M3	Y	-.003	-.003	0	0
114	M4	Y	-.003	-.003	0	0
115	M5	Y	-.003	-.003	0	0
116	M6	Y	-.003	-.003	0	0
117	M7	Y	-.003	-.003	0	0
118	M8	Y	-.003	-.003	0	0

Member Distributed Loads (BLC 3 : Weight of Ice Only on PCS Struct) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
119	M2	Y	-.009	-.009	0	0
120	M1	Y	-.009	-.009	0	0
121	M6	Y	-.009	-.009	0	0
122	M5	Y	-.009	-.009	0	0
123	M3	Y	-.009	-.009	0	0
124	M4	Y	-.009	-.009	0	0
125	M8	Y	-.009	-.009	0	0
126	M7	Y	-.009	-.009	0	0

Member Distributed Loads (BLC 4 : NESC Heavy Wind on PCS Structure)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M92	Z	-.001	-.001	0	0
2	M91	Z	-.001	-.001	0	0
3	M83	Z	-.001	-.001	0	0
4	M84	Z	-.001	-.001	0	0
5	M82	Z	-.001	-.001	0	0
6	M81	Z	-.001	-.001	0	0
7	M68	Z	-.001	-.001	0	0
8	M67	Z	-.001	-.001	0	0
9	M61	Z	-.001	-.001	0	0
10	M62	Z	-.001	-.001	0	0
11	M53	Z	-.001	-.001	0	0
12	M54	Z	-.001	-.001	0	0
13	M42	Z	-.001	-.001	0	0
14	M41	Z	-.001	-.001	0	0
15	M30	Z	-.001	-.001	0	0
16	M29	Z	-.001	-.001	0	0
17	M25	Z	-.001	-.001	0	0
18	M26	Z	-.001	-.001	0	0
19	M17	Z	-.001	-.001	0	0
20	M18	Z	-.001	-.001	0	0
21	M11	Z	-.001	-.001	0	0
22	M49	Z	-.001	-.001	0	0
23	M51	Z	-.001	-.001	0	0
24	M2	Z	-.002	-.002	0	0
25	M6	Z	-.002	-.002	0	0
26	M1	Z	-.002	-.002	0	0
27	M5	Z	-.002	-.002	0	0
28	M2	Z	-.006	-.006	0	0
29	M6	Z	-.006	-.006	0	0
30	M1	Z	-.006	-.006	0	0
31	M5	Z	-.006	-.006	0	0

Member Distributed Loads (BLC 5 : NESC Extreme Wind on PCS Structu)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	M91	Z	-.008	-.008	0	0
2	M92	Z	-.008	-.008	0	0
3	M83	Z	-.008	-.008	0	0
4	M84	Z	-.008	-.008	0	0
5	M82	Z	-.008	-.008	0	0
6	M81	Z	-.008	-.008	0	0
7	M68	Z	-.008	-.008	0	0
8	M67	Z	-.008	-.008	0	0
9	M61	Z	-.008	-.008	0	0
10	M62	Z	-.008	-.008	0	0
11	M54	Z	-.006	-.006	0	0
12	M53	Z	-.006	-.006	0	0

Member Distributed Loads (BLC 5 : NESC Extreme Wind on PCS Structu) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,deg]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
13	M42	Z	-.006	-.006	0	0
14	M41	Z	-.006	-.006	0	0
15	M30	Z	-.006	-.006	0	0
16	M29	Z	-.006	-.006	0	0
17	M25	Z	-.006	-.006	0	0
18	M26	Z	-.006	-.006	0	0
19	M17	Z	-.006	-.006	0	0
20	M18	Z	-.006	-.006	0	0
21	M11	Z	-.006	-.006	0	0
22	M51	Z	-.006	-.006	0	0
23	M49	Z	-.006	-.006	0	0
24	M2	Z	-.019	-.019	0	0
25	M6	Z	-.019	-.019	0	0
26	M1	Z	-.019	-.019	18.07	0
27	M5	Z	-.019	-.019	18.07	0
28	M1	Z	-.015	-.015	0	18.07
29	M5	Z	-.015	-.015	0	18.07
30	M2	Z	-.029	-.029	0	0
31	M6	Z	-.029	-.029	0	0
32	M1	Z	-.029	-.029	18.07	0
33	M5	Z	-.029	-.029	18.07	0
34	M1	Z	-.023	-.023	0	18.07
35	M5	Z	-.023	-.023	0	18.07

Basic Load Cases

	BLC Description	Category	X Gra...	Y Grav...	Z Gra...	Joint	Point	Distributed	Area (Mem...	Surfa...
1	Self Weight (PCS Mast)	None		-1						
2	Weight of Antennas, TMA's, Mount	None				3		8		
3	Weight of Ice Only on PCS Struct	None				3		126		
4	NESC Heavy Wind on PCS Structure	None				3		31		
5	NESC Extreme Wind on PCS Structu	None				3		35		

Load Combinations

	Description	Solve	PD...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
1	NESC Heavy Wind on PCS Structure	Yes			1	1.5	2	1.5	3	1.5	4	2.5						
2	NESC Extreme Wind on PCS Structu..	Yes			1	1	2	1	5	1								
3	Self Weight				1	1												

Envelope Member Section Forces

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1	M1	1	max	0	1	0	1	0	1	0	1	0	1	0	1
2			min	0	1	0	1	0	1	0	1	0	1	0	1
3		2	max	.158	1	0	1	.055	2	0	2	-.009	1	-.005	1
4			min	.143	2	0	2	.029	1	0	1	-.016	2	-.01	2
5		3	max	-.023	2	.004	2	.011	2	0	2	-.008	1	-.01	1
6			min	-.154	1	.002	1	.009	1	0	1	-.014	2	-.016	2
7		4	max	-1.702	1	-.04	1	1.137	2	0	2	-.087	1	-.128	1
8			min	-9.868	2	-.142	2	.38	1	0	1	-.269	2	-.389	2
9		5	max	-.567	1	-.006	1	.028	2	0	2	0	1	0	1
10			min	-6.156	2	-.022	2	.014	1	0	1	0	1	0	1
11	M2	1	max	-.567	1	-.006	1	.028	2	0	2	0	1	0	1
12			min	-6.156	2	-.022	2	.014	1	0	1	0	1	0	1
13		2	max	-.024	1	.027	2	.018	2	0	1	-.004	1	.011	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
14			min	-3.912	2	.007	1	.007	1	0	2	-.022	2	.006	1
15		3	max	.429	1	-.003	1	.082	2	0	1	-.003	1	-.014	1
16			min	-2.129	2	-.01	2	.03	1	0	2	-.004	2	-.042	2
17		4	max	.832	1	0	1	-.031	1	0	1	.007	2	.001	2
18			min	-.374	2	-.003	2	-.128	2	0	2	0	1	0	1
19		5	max	.992	1	.006	2	.68	2	0	1	0	1	0	1
20			min	.476	2	.004	1	.199	1	0	2	0	1	0	1
21	M3	1	max	0	1	0	1	0	1	0	1	0	1	0	1
22			min	0	1	0	1	0	1	0	1	0	1	0	1
23		2	max	.036	1	0	1	.007	2	0	2	-.003	1	.002	1
24			min	-.098	2	-.001	2	.003	1	0	1	-.006	2	-.002	2
25		3	max	-.063	2	.003	2	.036	2	0	1	-.008	1	-.009	1
26			min	-.175	1	0	1	.016	1	0	2	-.018	2	-.02	2
27		4	max	11.12	2	-.003	1	1.113	2	0	2	-.091	1	-.144	1
28			min	4.934	1	-.03	2	.376	1	0	1	-.265	2	-.417	2
29		5	max	7.404	2	.027	2	-.012	1	0	2	0	1	0	1
30			min	3.611	1	.014	1	-.018	2	0	1	0	1	0	1
31	M4	1	max	7.404	2	.027	2	-.012	1	0	2	0	1	0	1
32			min	3.611	1	.014	1	-.018	2	0	1	0	1	0	1
33		2	max	5.025	2	-.012	1	.006	1	0	1	.001	2	-.026	1
34			min	2.688	1	-.021	2	-.001	2	0	2	0	1	-.049	2
35		3	max	3.103	2	.01	2	.036	2	0	2	-.005	1	.001	1
36			min	1.999	1	.004	1	.01	1	0	1	-.017	2	-.013	2
37		4	max	1.343	2	-.002	1	-.055	1	0	1	.029	2	.004	1
38			min	1.342	1	-.008	2	-.186	2	0	2	.009	1	.003	2
39		5	max	.993	1	.001	1	.702	2	0	1	0	1	0	1
40			min	.477	2	-.003	2	.202	1	0	2	0	1	0	1
41	M5	1	max	0	1	0	1	0	1	0	1	0	1	0	1
42			min	0	1	0	1	0	1	0	1	0	1	0	1
43		2	max	.15	1	0	2	.054	2	0	1	-.008	1	-.008	1
44			min	.126	2	-.001	1	.029	1	0	2	-.016	2	-.009	2
45		3	max	-.002	2	.002	2	.012	2	0	2	-.009	1	-.009	1
46			min	-.144	1	.002	1	.009	1	0	1	-.014	2	-.015	2
47		4	max	-1.672	1	-.023	1	1.121	2	0	1	-.082	1	-.127	1
48			min	-9.761	2	-.038	2	.376	1	0	2	-.252	2	-.401	2
49		5	max	-.576	1	.023	2	.013	1	0	2	0	1	0	1
50			min	-6.176	2	0	1	.012	2	0	1	0	1	0	1
51	M6	1	max	-.576	1	.023	2	.013	1	0	2	0	1	0	1
52			min	-6.176	2	0	1	.012	2	0	1	0	1	0	1
53		2	max	-.03	1	0	1	.032	2	0	2	0	1	-.002	1
54			min	-3.92	2	-.017	2	.008	1	0	1	0	2	-.043	2
55		3	max	.452	1	.01	2	.08	2	0	1	-.007	1	-.011	1
56			min	-2.067	2	.002	1	.03	1	0	2	-.02	2	-.019	2
57		4	max	.83	1	-.003	1	-.032	1	0	2	.018	2	-.006	1
58			min	-.389	2	-.009	2	-.133	2	0	1	.004	1	-.01	2
59		5	max	.994	1	-.004	1	.702	2	0	2	0	1	0	1
60			min	.477	2	-.006	2	.206	1	0	1	0	1	0	1
61	M7	1	max	0	1	0	1	0	1	0	1	0	1	0	1
62			min	0	1	0	1	0	1	0	1	0	1	0	1
63		2	max	.027	1	-.002	1	.008	2	0	1	-.002	1	-.003	1
64			min	-.114	2	-.003	2	.004	1	0	2	-.005	2	-.005	2
65		3	max	-.044	2	.005	2	.034	2	0	2	-.008	1	-.008	1
66			min	-.164	1	.002	1	.014	1	0	1	-.018	2	-.021	2
67		4	max	11.229	2	-.056	1	1.129	2	0	1	-.097	1	-.134	1
68			min	4.973	1	-.149	2	.381	1	0	2	-.282	2	-.4	2
69		5	max	7.385	2	-.009	1	.002	2	0	1	0	1	0	1
70			min	3.608	1	-.025	2	-.002	1	0	2	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
71	M8	1	max	7.385	2	-.009	1	.002	2	0	1	0	1	0	1
72			min	3.608	1	-.025	2	-.002	1	0	2	0	1	0	1
73		2	max	5.02	2	.03	2	-.003	1	0	2	-.011	1	.014	2
74			min	2.69	1	.01	1	-.018	2	0	1	-.024	2	.004	1
75		3	max	3.161	2	-.004	1	.038	2	0	2	.002	1	-.011	1
76			min	2.012	1	-.011	2	.011	1	0	1	0	2	-.04	2
77		4	max	1.334	1	0	1	-.052	1	0	2	.018	2	.012	2
78			min	1.326	2	-.003	2	-.18	2	0	1	.006	1	.004	1
79		5	max	.992	1	.003	2	.679	2	0	2	0	1	0	1
80			min	.476	2	-.001	1	.195	1	0	1	0	1	0	1
81	M9	1	max	-.006	2	.007	1	0	1	0	1	0	1	0	1
82			min	-.009	1	.002	2	0	1	0	2	0	1	0	1
83		2	max	-.006	2	.003	1	0	1	0	1	.002	1	0	2
84			min	-.009	1	.001	2	0	1	0	2	0	2	-.002	1
85		3	max	-.006	2	0	1	0	1	0	1	.003	1	0	2
86			min	-.009	1	0	1	0	1	0	2	0	2	-.003	1
87		4	max	-.006	2	-.001	2	0	1	0	1	.002	1	0	2
88			min	-.009	1	-.003	1	0	1	0	2	0	2	-.002	1
89		5	max	-.006	2	-.002	2	0	1	0	1	0	1	0	1
90			min	-.009	1	-.007	1	0	1	0	2	0	1	0	1
91	M10	1	max	.027	2	.007	1	0	1	0	2	0	1	0	1
92			min	.007	1	.002	2	0	1	0	1	0	1	0	1
93		2	max	.027	2	.003	1	0	1	0	2	.002	1	0	2
94			min	.007	1	.001	2	0	1	0	1	0	2	-.002	1
95		3	max	.027	2	0	1	0	1	0	2	.003	1	0	2
96			min	.007	1	0	1	0	1	0	1	0	2	-.003	1
97		4	max	.027	2	-.001	2	0	1	0	2	.002	1	0	2
98			min	.007	1	-.003	1	0	1	0	1	0	2	-.002	1
99		5	max	.027	2	-.002	2	0	1	0	2	0	1	0	1
100			min	.007	1	-.007	1	0	1	0	1	0	1	0	1
101	M11	1	max	.002	2	.007	1	-.003	1	0	1	0	1	0	1
102			min	-.005	1	.002	2	-.007	2	0	2	0	1	0	1
103		2	max	.002	2	.003	1	-.001	1	0	1	.001	1	-.003	2
104			min	-.005	1	.001	2	-.003	2	0	2	-.001	2	-.003	1
105		3	max	.002	2	0	1	0	1	0	1	.002	1	-.004	2
106			min	-.005	1	0	1	0	1	0	2	-.002	2	-.004	1
107		4	max	.002	2	-.001	2	.003	2	0	1	.001	1	-.003	2
108			min	-.005	1	-.003	1	.001	1	0	2	-.001	2	-.003	1
109		5	max	.002	2	-.002	2	.007	2	0	1	0	1	0	1
110			min	-.005	1	-.007	1	.003	1	0	2	0	1	0	1
111	M12	1	max	.026	2	.007	1	0	1	0	2	0	1	0	1
112			min	.006	1	.002	2	0	1	0	1	0	1	0	1
113		2	max	.026	2	.003	1	0	1	0	2	.002	1	0	2
114			min	.006	1	.001	2	0	1	0	1	0	2	-.002	1
115		3	max	.026	2	0	1	0	1	0	2	.003	1	0	2
116			min	.006	1	0	1	0	1	0	1	0	2	-.003	1
117		4	max	.026	2	-.001	2	0	1	0	2	.002	1	0	2
118			min	.006	1	-.003	1	0	1	0	1	0	2	-.002	1
119		5	max	.026	2	-.002	2	0	1	0	2	0	1	0	1
120			min	.006	1	-.007	1	0	1	0	1	0	1	0	1
121	M13	1	max	.023	1	.007	1	0	1	0	1	0	1	0	1
122			min	.018	2	.002	2	0	1	0	2	0	1	0	1
123		2	max	.018	1	.003	1	0	1	0	1	.003	1	-.001	2
124			min	.017	2	.001	2	0	1	0	2	.001	2	-.003	1
125		3	max	.015	2	0	1	0	1	0	1	.005	1	-.001	2
126			min	.013	1	0	1	0	1	0	2	.001	2	-.005	1
127		4	max	.014	2	-.001	2	0	1	0	1	.003	1	-.001	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
128			min	.009	1	-.003	1	0	1	0	2	.001	2	-.003	1
129		5	max	.012	2	-.002	2	0	1	0	1	0	1	0	1
130			min	.004	1	-.007	1	0	1	0	2	0	1	0	1
131	M14	1	max	.016	1	.007	1	0	1	0	2	0	1	0	1
132			min	.005	2	.002	2	0	1	0	1	0	1	0	1
133		2	max	.012	1	.003	1	0	1	0	2	.003	1	-.001	2
134			min	.003	2	.001	2	0	1	0	1	.001	2	-.003	1
135		3	max	.007	1	0	1	0	1	0	2	.005	1	-.001	2
136			min	.002	2	0	1	0	1	0	1	.001	2	-.005	1
137		4	max	.002	1	-.001	2	0	1	0	2	.003	1	-.001	2
138			min	0	2	-.003	1	0	1	0	1	.001	2	-.003	1
139		5	max	0	2	-.002	2	0	1	0	2	0	1	0	1
140			min	-.002	1	-.007	1	0	1	0	1	0	1	0	1
141	M15	1	max	.263	2	.007	1	0	1	0	1	0	1	0	1
142			min	.152	1	.002	2	0	1	0	2	0	1	0	1
143		2	max	.262	2	.003	1	0	1	0	1	.003	1	-.001	2
144			min	.147	1	.001	2	0	1	0	2	.001	2	-.003	1
145		3	max	.261	2	0	1	0	1	0	1	.005	1	-.001	2
146			min	.142	1	0	1	0	1	0	2	.001	2	-.005	1
147		4	max	.259	2	-.001	2	0	1	0	1	.003	1	-.001	2
148			min	.138	1	-.003	1	0	1	0	2	.001	2	-.003	1
149		5	max	.258	2	-.002	2	0	1	0	1	0	1	0	1
150			min	.133	1	-.007	1	0	1	0	2	0	1	0	1
151	M16	1	max	-.047	1	.007	1	0	1	0	2	0	1	0	1
152			min	-.123	2	.002	2	0	1	0	1	0	1	0	1
153		2	max	-.051	1	.003	1	0	1	0	2	.003	1	-.001	2
154			min	-.125	2	.001	2	0	1	0	1	.001	2	-.003	1
155		3	max	-.056	1	0	1	0	1	0	2	.005	1	-.001	2
156			min	-.126	2	0	1	0	1	0	1	.001	2	-.005	1
157		4	max	-.061	1	-.001	2	0	1	0	2	.003	1	-.001	2
158			min	-.128	2	-.003	1	0	1	0	1	.001	2	-.003	1
159		5	max	-.065	1	-.002	2	0	1	0	2	0	1	0	1
160			min	-.129	2	-.007	1	0	1	0	1	0	1	0	1
161	M17	1	max	.01	1	.007	1	-.005	1	0	2	0	1	0	1
162			min	-.006	2	.002	2	-.012	2	0	1	0	1	0	1
163		2	max	.006	1	.003	1	-.002	1	0	2	0	1	-.006	1
164			min	-.007	2	.001	2	-.006	2	0	1	-.005	2	-.007	2
165		3	max	.001	1	0	1	0	1	0	2	.001	1	-.008	1
166			min	-.008	2	0	1	0	1	0	1	-.007	2	-.01	2
167		4	max	-.003	1	-.001	2	.006	2	0	2	0	1	-.006	1
168			min	-.01	2	-.003	1	.002	1	0	1	-.005	2	-.007	2
169		5	max	-.008	1	-.002	2	.012	2	0	2	0	1	0	1
170			min	-.011	2	-.007	1	.005	1	0	1	0	1	0	1
171	M18	1	max	.016	1	.007	1	.012	2	0	1	0	1	0	1
172			min	.004	2	.002	2	.005	1	0	2	0	1	0	1
173		2	max	.011	1	.003	1	.006	2	0	1	.007	2	.005	2
174			min	.002	2	.001	2	.002	1	0	2	.006	1	0	1
175		3	max	.006	1	0	1	0	1	0	1	.01	2	.007	2
176			min	.001	2	0	1	0	1	0	2	.008	1	-.001	1
177		4	max	.002	1	-.001	2	-.002	1	0	1	.007	2	.005	2
178			min	0	2	-.003	1	-.006	2	0	2	.006	1	0	1
179		5	max	-.002	2	-.002	2	-.005	1	0	1	0	1	0	1
180			min	-.003	1	-.007	1	-.012	2	0	2	0	1	0	1
181	M19	1	max	-.044	1	.007	1	0	1	0	2	0	1	0	1
182			min	-.121	2	.002	2	0	1	0	1	0	1	0	1
183		2	max	-.048	1	.003	1	0	1	0	2	.003	1	-.001	2
184			min	-.122	2	.001	2	0	1	0	1	.001	2	-.003	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
185		3	max	-.053	1	0	1	0	1	0	2	.005	1	-.001	2
186			min	-.123	2	0	1	0	1	0	1	.001	2	-.005	1
187		4	max	-.058	1	-.001	2	0	1	0	2	.003	1	-.001	2
188			min	-.125	2	-.003	1	0	1	0	1	.001	2	-.003	1
189		5	max	-.062	1	-.002	2	0	1	0	2	0	1	0	1
190			min	-.126	2	-.007	1	0	1	0	1	0	1	0	1
191	M20	1	max	.266	2	.007	1	0	1	0	1	0	1	0	1
192			min	.151	1	.002	2	0	1	0	2	0	1	0	1
193		2	max	.265	2	.003	1	0	1	0	1	.003	1	-.001	2
194			min	.147	1	.001	2	0	1	0	2	.001	2	-.003	1
195		3	max	.264	2	0	1	0	1	0	1	.005	1	-.001	2
196			min	.142	1	0	1	0	1	0	2	.001	2	-.005	1
197		4	max	.262	2	-.001	2	0	1	0	1	.003	1	-.001	2
198			min	.138	1	-.003	1	0	1	0	2	.001	2	-.003	1
199		5	max	.261	2	-.002	2	0	1	0	1	0	1	0	1
200			min	.133	1	-.007	1	0	1	0	2	0	1	0	1
201	M21	1	max	.007	1	.007	1	0	1	0	2	0	1	0	1
202			min	.002	2	.002	2	0	1	0	1	0	1	0	1
203		2	max	.003	1	.003	1	0	1	0	2	.003	1	-.001	2
204			min	0	2	.001	2	0	1	0	1	.001	2	-.003	1
205		3	max	-.001	2	0	1	0	1	0	2	.005	1	-.001	2
206			min	-.002	1	0	1	0	1	0	1	.001	2	-.005	1
207		4	max	-.003	2	-.001	2	0	1	0	2	.003	1	-.001	2
208			min	-.007	1	-.003	1	0	1	0	1	.001	2	-.003	1
209		5	max	-.004	2	-.002	2	0	1	0	2	0	1	0	1
210			min	-.011	1	-.007	1	0	1	0	1	0	1	0	1
211	M22	1	max	-.014	2	.007	1	0	1	0	1	0	1	0	1
212			min	-.019	1	.002	2	0	1	0	2	0	1	0	1
213		2	max	-.013	2	.003	1	0	1	0	1	.003	1	-.001	2
214			min	-.014	1	.001	2	0	1	0	2	.001	2	-.003	1
215		3	max	-.009	1	0	1	0	1	0	1	.005	1	-.001	2
216			min	-.011	2	0	1	0	1	0	2	.001	2	-.005	1
217		4	max	-.005	1	-.001	2	0	1	0	1	.003	1	-.001	2
218			min	-.01	2	-.003	1	0	1	0	2	.001	2	-.003	1
219		5	max	0	1	-.002	2	0	1	0	1	0	1	0	1
220			min	-.008	2	-.007	1	0	1	0	2	0	1	0	1
221	M23	1	max	.091	2	.007	1	0	1	0	2	0	1	0	1
222			min	.046	1	.002	2	0	1	0	1	0	1	0	1
223		2	max	.09	2	.003	1	0	1	0	2	.003	1	-.001	2
224			min	.041	1	.001	2	0	1	0	1	.001	2	-.003	1
225		3	max	.088	2	0	1	0	1	0	2	.005	1	-.001	2
226			min	.036	1	0	1	0	1	0	1	.001	2	-.005	1
227		4	max	.087	2	-.001	2	0	1	0	2	.003	1	-.001	2
228			min	.032	1	-.003	1	0	1	0	1	.001	2	-.003	1
229		5	max	.086	2	-.002	2	0	1	0	2	0	1	0	1
230			min	.027	1	-.007	1	0	1	0	1	0	1	0	1
231	M24	1	max	.028	2	.007	1	0	1	0	1	0	1	0	1
232			min	.016	1	.002	2	0	1	0	2	0	1	0	1
233		2	max	.026	2	.003	1	0	1	0	1	.003	1	-.001	2
234			min	.011	1	.001	2	0	1	0	2	.001	2	-.003	1
235		3	max	.025	2	0	1	0	1	0	1	.005	1	-.001	2
236			min	.006	1	0	1	0	1	0	2	.001	2	-.005	1
237		4	max	.023	2	-.001	2	0	1	0	1	.003	1	-.001	2
238			min	.002	1	-.003	1	0	1	0	2	.001	2	-.003	1
239		5	max	.022	2	-.002	2	0	1	0	1	0	1	0	1
240			min	-.003	1	-.007	1	0	1	0	2	0	1	0	1
241	M25	1	max	.004	1	.007	1	-.005	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
242			min	-.004	2	.002	2	-.012	2	0	2	0	1	0	1
243		2	max	0	1	.003	1	-.002	1	0	1	0	1	-.006	1
244			min	-.006	2	.001	2	-.006	2	0	2	-.005	2	-.007	2
245		3	max	-.005	1	0	1	0	1	0	1	.001	1	-.008	1
246			min	-.007	2	0	1	0	1	0	2	-.007	2	-.01	2
247		4	max	-.009	2	-.001	2	.006	2	0	1	0	1	-.006	1
248			min	-.01	1	-.003	1	.002	1	0	2	-.005	2	-.007	2
249		5	max	-.01	2	-.002	2	.012	2	0	1	0	1	0	1
250			min	-.014	1	-.007	1	.005	1	0	2	0	1	0	1
251	M26	1	max	.015	2	.007	1	.012	2	0	2	0	1	0	1
252			min	.012	1	.002	2	.005	1	0	1	0	1	0	1
253		2	max	.013	2	.003	1	.006	2	0	2	.007	2	.005	2
254			min	.007	1	.001	2	.002	1	0	1	.006	1	0	1
255		3	max	.012	2	0	1	0	1	0	2	.01	2	.007	2
256			min	.002	1	0	1	0	1	0	1	.008	1	-.001	1
257		4	max	.01	2	-.001	2	-.002	1	0	2	.007	2	.005	2
258			min	-.002	1	-.003	1	-.006	2	0	1	.006	1	0	1
259		5	max	.009	2	-.002	2	-.005	1	0	2	0	1	0	1
260			min	-.007	1	-.007	1	-.012	2	0	1	0	1	0	1
261	M27	1	max	.027	2	.007	1	0	1	0	1	0	1	0	1
262			min	.013	1	.002	2	0	1	0	2	0	1	0	1
263		2	max	.025	2	.003	1	0	1	0	1	.003	1	-.001	2
264			min	.008	1	.001	2	0	1	0	2	.001	2	-.003	1
265		3	max	.024	2	0	1	0	1	0	1	.005	1	-.001	2
266			min	.004	1	0	1	0	1	0	2	.001	2	-.005	1
267		4	max	.022	2	-.001	2	0	1	0	1	.003	1	-.001	2
268			min	0	1	-.003	1	0	1	0	2	.001	2	-.003	1
269		5	max	.021	2	-.002	2	0	1	0	1	0	1	0	1
270			min	-.005	1	-.007	1	0	1	0	2	0	1	0	1
271	M28	1	max	.092	2	.007	1	0	1	0	2	0	1	0	1
272			min	.048	1	.002	2	0	1	0	1	0	1	0	1
273		2	max	.091	2	.003	1	0	1	0	2	.003	1	-.001	2
274			min	.043	1	.001	2	0	1	0	1	.001	2	-.003	1
275		3	max	.089	2	0	1	0	1	0	2	.005	1	-.001	2
276			min	.039	1	0	1	0	1	0	1	.001	2	-.005	1
277		4	max	.088	2	-.001	2	0	1	0	2	.003	1	-.001	2
278			min	.034	1	-.003	1	0	1	0	1	.001	2	-.003	1
279		5	max	.086	2	-.002	2	0	1	0	2	0	1	0	1
280			min	.03	1	-.007	1	0	1	0	1	0	1	0	1
281	M29	1	max	.018	2	.007	1	.012	2	0	2	0	1	0	1
282			min	.017	1	.002	2	.005	1	0	1	0	1	0	1
283		2	max	.016	2	.003	1	.006	2	0	2	.007	2	.005	2
284			min	.013	1	.001	2	.002	1	0	1	.006	1	0	1
285		3	max	.015	2	0	1	0	1	0	2	.01	2	.007	2
286			min	.008	1	0	1	0	1	0	1	.008	1	-.001	1
287		4	max	.013	2	-.001	2	-.002	1	0	2	.007	2	.005	2
288			min	.003	1	-.003	1	-.006	2	0	1	.006	1	0	1
289		5	max	.012	2	-.002	2	-.005	1	0	2	0	1	0	1
290			min	-.001	1	-.007	1	-.012	2	0	1	0	1	0	1
291	M30	1	max	.002	1	.007	1	-.005	1	0	1	0	1	0	1
292			min	-.011	2	.002	2	-.012	2	0	2	0	1	0	1
293		2	max	-.002	1	.003	1	-.002	1	0	1	0	1	-.006	1
294			min	-.013	2	.001	2	-.006	2	0	2	-.005	2	-.007	2
295		3	max	-.007	1	0	1	0	1	0	1	.001	1	-.008	1
296			min	-.014	2	0	1	0	1	0	2	-.007	2	-.01	2
297		4	max	-.012	1	-.001	2	.006	2	0	1	0	1	-.006	1
298			min	-.016	2	-.003	1	.002	1	0	2	-.005	2	-.007	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
299		5	max	-.016	1	-.002	2	.012	2	0	1	0	1	0	1
300			min	-.017	2	-.007	1	.005	1	0	2	0	1	0	1
301	M31	1	max	.109	2	.003	1	0	2	0	2	0	1	0	1
302			min	.062	1	.001	2	0	1	0	1	0	1	0	1
303		2	max	.109	2	0	2	0	2	0	2	0	1	0	2
304			min	.062	1	0	1	0	1	0	1	0	2	0	1
305		3	max	0	1	.004	1	0	2	0	1	0	2	0	1
306			min	-.016	2	0	2	0	1	0	2	0	1	0	2
307		4	max	0	1	0	1	0	2	0	1	0	1	0	2
308			min	-.016	2	0	2	0	1	0	2	0	2	0	1
309		5	max	0	1	-.001	2	0	2	0	1	0	1	0	1
310			min	-.016	2	-.003	1	0	1	0	2	0	1	0	1
311	M32	1	max	.106	2	.003	1	0	2	0	2	0	1	0	1
312			min	.061	1	.001	2	0	1	0	1	0	1	0	1
313		2	max	.106	2	0	2	0	2	0	2	0	1	0	2
314			min	.061	1	0	1	0	1	0	1	0	2	0	1
315		3	max	-.002	1	.004	1	0	2	0	1	0	2	0	1
316			min	-.018	2	0	2	0	1	0	2	0	1	0	2
317		4	max	-.002	1	0	1	0	2	0	1	0	1	0	2
318			min	-.018	2	0	2	0	1	0	2	0	2	0	1
319		5	max	-.002	1	-.001	2	0	2	0	1	0	1	0	1
320			min	-.018	2	-.003	1	0	1	0	2	0	1	0	1
321	M33	1	max	.021	2	.007	1	0	1	0	2	0	1	0	1
322			min	.019	1	.002	2	0	1	0	1	0	1	0	1
323		2	max	.019	2	.003	1	0	1	0	2	.003	1	-.001	2
324			min	.014	1	.001	2	0	1	0	1	.001	2	-.003	1
325		3	max	.018	2	0	1	0	1	0	2	.005	1	-.001	2
326			min	.009	1	0	1	0	1	0	1	.001	2	-.005	1
327		4	max	.016	2	-.001	2	0	1	0	2	.003	1	-.001	2
328			min	.005	1	-.003	1	0	1	0	1	.001	2	-.003	1
329		5	max	.015	2	-.002	2	0	1	0	2	0	1	0	1
330			min	0	1	-.007	1	0	1	0	1	0	1	0	1
331	M34	1	max	.003	1	.007	1	0	1	0	1	0	1	0	1
332			min	-.01	2	.002	2	0	1	0	2	0	1	0	1
333		2	max	-.001	1	.003	1	0	1	0	1	.003	1	-.001	2
334			min	-.011	2	.001	2	0	1	0	2	.001	2	-.003	1
335		3	max	-.006	1	0	1	0	1	0	1	.005	1	-.001	2
336			min	-.013	2	0	1	0	1	0	2	.001	2	-.005	1
337		4	max	-.011	1	-.001	2	0	1	0	1	.003	1	-.001	2
338			min	-.014	2	-.003	1	0	1	0	2	.001	2	-.003	1
339		5	max	-.015	1	-.002	2	0	1	0	1	0	1	0	1
340			min	-.016	2	-.007	1	0	1	0	2	0	1	0	1
341	M35	1	max	-.019	1	.002	1	0	2	0	1	0	1	0	1
342			min	-.046	2	0	2	0	1	0	2	0	1	0	1
343		2	max	-.019	1	0	2	0	2	0	1	0	1	0	2
344			min	-.046	2	0	1	0	1	0	2	0	2	0	1
345		3	max	.131	2	.004	1	0	2	0	1	0	2	0	1
346			min	.071	1	.002	2	0	1	0	2	0	1	0	2
347		4	max	.131	2	0	1	0	2	0	1	0	1	0	2
348			min	.071	1	0	2	0	1	0	2	0	2	0	1
349		5	max	.131	2	0	2	0	2	0	1	0	1	0	1
350			min	.071	1	-.002	1	0	1	0	2	0	1	0	1
351	M36	1	max	-.017	1	.002	1	0	2	0	2	0	1	0	1
352			min	-.042	2	0	2	0	1	0	1	0	1	0	1
353		2	max	-.017	1	0	2	0	2	0	2	0	1	0	2
354			min	-.042	2	0	1	0	1	0	1	0	2	0	1
355		3	max	.134	2	.004	1	0	2	0	1	0	2	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
356			min	.073	1	.002	2	0	1	0	2	0	1	0	2
357		4	max	.134	2	0	1	0	2	0	1	0	1	0	2
358			min	.073	1	0	2	0	1	0	2	0	2	0	1
359		5	max	.134	2	0	2	0	2	0	1	0	1	0	1
360			min	.073	1	-.002	1	0	1	0	2	0	1	0	1
361	M37	1	max	.009	1	.007	1	0	1	0	1	0	1	0	1
362			min	.009	2	.002	2	0	1	0	2	0	1	0	1
363		2	max	.008	2	.003	1	0	1	0	1	.003	1	0	2
364			min	.007	1	.001	2	0	1	0	2	0	2	-.003	1
365		3	max	.007	2	0	1	0	1	0	1	.003	1	-.001	2
366			min	.004	1	0	1	0	1	0	2	.001	2	-.003	1
367		4	max	.007	2	-.001	2	0	1	0	1	.003	1	0	2
368			min	.002	1	-.003	1	0	1	0	2	0	2	-.003	1
369		5	max	.006	2	-.002	2	0	1	0	1	0	1	0	1
370			min	0	1	-.007	1	0	1	0	2	0	1	0	1
371	M38	1	max	0	1	.007	1	0	1	0	2	0	1	0	1
372			min	-.005	2	.002	2	0	1	0	1	0	1	0	1
373		2	max	-.002	1	.003	1	0	1	0	2	.003	1	0	2
374			min	-.006	2	.001	2	0	1	0	1	0	2	-.003	1
375		3	max	-.005	1	0	1	0	1	0	2	.003	1	-.001	2
376			min	-.007	2	0	1	0	1	0	1	.001	2	-.003	1
377		4	max	-.007	1	-.001	2	0	1	0	2	.003	1	0	2
378			min	-.008	2	-.003	1	0	1	0	1	0	2	-.003	1
379		5	max	-.009	2	-.002	2	0	1	0	2	0	1	0	1
380			min	-.01	1	-.007	1	0	1	0	1	0	1	0	1
381	M39	1	max	.182	2	.007	1	0	1	0	2	0	1	0	1
382			min	.088	1	.002	2	0	1	0	1	0	1	0	1
383		2	max	.182	2	.003	1	0	1	0	2	.003	1	0	2
384			min	.086	1	.001	2	0	1	0	1	0	2	-.003	1
385		3	max	.181	2	0	1	0	1	0	2	.003	1	-.001	2
386			min	.083	1	0	1	0	1	0	1	.001	2	-.003	1
387		4	max	.18	2	-.001	2	0	1	0	2	.003	1	0	2
388			min	.081	1	-.003	1	0	1	0	1	0	2	-.003	1
389		5	max	.179	2	-.002	2	0	1	0	2	0	1	0	1
390			min	.078	1	-.007	1	0	1	0	1	0	1	0	1
391	M40	1	max	-.074	1	.007	1	0	1	0	1	0	1	0	1
392			min	-.137	2	.002	2	0	1	0	2	0	1	0	1
393		2	max	-.076	1	.003	1	0	1	0	1	.003	1	0	2
394			min	-.138	2	.001	2	0	1	0	2	0	2	-.003	1
395		3	max	-.079	1	0	1	0	1	0	1	.003	1	-.001	2
396			min	-.139	2	0	1	0	1	0	2	.001	2	-.003	1
397		4	max	-.081	1	-.001	2	0	1	0	1	.003	1	0	2
398			min	-.14	2	-.003	1	0	1	0	2	0	2	-.003	1
399		5	max	-.084	1	-.002	2	0	1	0	1	0	1	0	1
400			min	-.14	2	-.007	1	0	1	0	2	0	1	0	1
401	M41	1	max	.009	2	.007	1	.009	2	0	1	0	1	0	1
402			min	.008	1	.002	2	.004	1	0	2	0	1	0	1
403		2	max	.008	2	.003	1	.004	2	0	1	.004	2	.003	2
404			min	.005	1	.001	2	.002	1	0	2	.004	1	-.001	1
405		3	max	.007	2	0	1	0	1	0	1	.006	2	.003	2
406			min	.003	1	0	1	0	1	0	2	.005	1	-.002	1
407		4	max	.006	2	-.001	2	-.002	1	0	1	.004	2	.003	2
408			min	0	1	-.003	1	-.004	2	0	2	.004	1	-.001	1
409		5	max	.005	2	-.002	2	-.004	1	0	1	0	1	0	1
410			min	-.002	1	-.007	1	-.009	2	0	2	0	1	0	1
411	M42	1	max	0	1	.007	1	-.004	1	0	2	0	1	0	1
412			min	-.009	2	.002	2	-.009	2	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
413		2	max	-.003	1	.003	1	-.002	1	0	2	.001	1	-.004	1
414			min	-.01	2	.001	2	-.004	2	0	1	-.003	2	-.004	2
415		3	max	-.005	1	0	1	0	1	0	2	.002	1	-.005	1
416			min	-.011	2	0	1	0	1	0	1	-.003	2	-.006	2
417		4	max	-.008	1	-.001	2	.004	2	0	2	.001	1	-.004	1
418			min	-.012	2	-.003	1	.002	1	0	1	-.003	2	-.004	2
419		5	max	-.01	1	-.002	2	.009	2	0	2	0	1	0	1
420			min	-.013	2	-.007	1	.004	1	0	1	0	1	0	1
421	M43	1	max	.181	2	.007	1	0	1	0	2	0	1	0	1
422			min	.088	1	.002	2	0	1	0	1	0	1	0	1
423		2	max	.18	2	.003	1	0	1	0	2	.003	1	0	2
424			min	.085	1	.001	2	0	1	0	1	0	2	-.003	1
425		3	max	.179	2	0	1	0	1	0	2	.003	1	-.001	2
426			min	.083	1	0	1	0	1	0	1	.001	2	-.003	1
427		4	max	.178	2	-.001	2	0	1	0	2	.003	1	0	2
428			min	.08	1	-.003	1	0	1	0	1	0	2	-.003	1
429		5	max	.178	2	-.002	2	0	1	0	2	0	1	0	1
430			min	.078	1	-.007	1	0	1	0	1	0	1	0	1
431	M44	1	max	-.075	1	.007	1	0	1	0	1	0	1	0	1
432			min	-.138	2	.002	2	0	1	0	2	0	1	0	1
433		2	max	-.077	1	.003	1	0	1	0	1	.003	1	0	2
434			min	-.139	2	.001	2	0	1	0	2	0	2	-.003	1
435		3	max	-.08	1	0	1	0	1	0	1	.003	1	-.001	2
436			min	-.14	2	0	1	0	1	0	2	.001	2	-.003	1
437		4	max	-.082	1	-.001	2	0	1	0	1	.003	1	0	2
438			min	-.141	2	-.003	1	0	1	0	2	0	2	-.003	1
439		5	max	-.085	1	-.002	2	0	1	0	1	0	1	0	1
440			min	-.141	2	-.007	1	0	1	0	2	0	1	0	1
441	M45	1	max	-.613	1	.004	1	0	1	0	1	0	1	0	1
442			min	-1.868	2	.002	2	0	2	0	2	0	1	0	1
443		2	max	-.613	1	.001	2	0	1	0	1	0	1	0	2
444			min	-1.868	2	0	1	0	2	0	2	0	2	0	1
445		3	max	1.865	2	.003	1	0	1	0	1	.001	2	0	1
446			min	.646	1	0	2	0	2	0	2	0	1	-.001	2
447		4	max	1.865	2	0	1	0	1	0	1	0	1	0	2
448			min	.646	1	-.001	2	0	2	0	2	0	2	0	1
449		5	max	1.865	2	-.002	2	0	1	0	1	0	1	0	1
450			min	.646	1	-.004	1	0	2	0	2	0	1	0	1
451	M46	1	max	1.977	2	.004	1	0	2	0	2	0	1	0	1
452			min	.686	1	.001	2	0	1	0	1	0	1	0	1
453		2	max	1.977	2	0	1	0	2	0	2	0	1	0	2
454			min	.686	1	0	2	0	1	0	1	0	2	0	1
455		3	max	1.977	2	0	2	0	2	0	2	0	1	0	2
456			min	.686	1	-.003	1	0	1	0	1	0	2	0	1
457		4	max	-.583	1	0	2	0	2	0	2	0	1	0	2
458			min	-1.76	2	0	1	0	1	0	1	0	2	0	1
459		5	max	-.583	1	-.001	2	0	2	0	2	0	1	0	1
460			min	-1.76	2	-.004	1	0	1	0	1	0	1	0	1
461	M47	1	max	1.727	2	.001	1	0	1	0	1	0	1	0	1
462			min	.544	1	0	2	0	2	0	2	0	1	0	1
463		2	max	1.727	2	-.002	2	0	1	0	1	0	1	0	2
464			min	.544	1	-.002	1	0	2	0	2	0	2	0	1
465		3	max	-.56	1	.005	1	0	1	0	2	-.002	2	.002	1
466			min	-1.596	2	.003	2	0	2	0	1	-.002	1	.002	2
467		4	max	-.56	1	.002	1	0	1	0	2	0	1	0	2
468			min	-1.596	2	.002	2	0	2	0	1	0	2	0	1
469		5	max	-.56	1	0	2	0	1	0	2	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
470			min	-1.596	2	-.001	1	0	2	0	1	0	1	0	1
471	M48	1	max	1.647	2	.002	1	0	2	0	1	0	1	0	1
472			min	.519	1	0	2	0	1	0	2	0	1	0	1
473		2	max	1.647	2	0	2	0	2	0	1	0	2	0	1
474			min	.519	1	-.002	1	0	1	0	2	0	1	0	2
475		3	max	-.585	1	.005	1	0	2	0	2	0	2	.001	1
476			min	-1.676	2	.001	2	0	1	0	1	-.001	1	0	2
477		4	max	-.585	1	.002	1	0	2	0	2	0	2	0	1
478			min	-1.676	2	0	2	0	1	0	1	0	1	0	2
479		5	max	-.585	1	0	2	0	2	0	2	0	1	0	1
480			min	-1.676	2	-.002	1	0	1	0	1	0	1	0	1
481	M49	1	max	.583	2	.007	1	.007	2	0	1	0	1	0	1
482			min	.1	1	.002	2	.003	1	0	2	0	1	0	1
483		2	max	.583	2	.003	1	.003	2	0	1	.003	1	.001	2
484			min	.1	1	.001	2	.001	1	0	2	.003	2	-.001	1
485		3	max	.583	2	0	1	0	1	0	1	.004	1	.002	2
486			min	.1	1	0	1	0	1	0	2	.004	2	-.002	1
487		4	max	.583	2	-.001	2	-.001	1	0	1	.003	1	.001	2
488			min	.1	1	-.003	1	-.003	2	0	2	.003	2	-.001	1
489		5	max	.583	2	-.002	2	-.003	1	0	1	0	1	0	1
490			min	.1	1	-.007	1	-.007	2	0	2	0	1	0	1
491	M50	1	max	-.296	1	.007	1	0	1	0	1	0	1	0	1
492			min	-.665	2	.002	2	0	1	0	2	0	1	0	1
493		2	max	-.296	1	.003	1	0	1	0	1	.002	1	0	2
494			min	-.665	2	.001	2	0	1	0	2	0	2	-.002	1
495		3	max	-.296	1	0	1	0	1	0	1	.003	1	0	2
496			min	-.665	2	0	1	0	1	0	2	0	2	-.003	1
497		4	max	-.296	1	-.001	2	0	1	0	1	.002	1	0	2
498			min	-.665	2	-.003	1	0	1	0	2	0	2	-.002	1
499		5	max	-.296	1	-.002	2	0	1	0	1	0	1	0	1
500			min	-.665	2	-.007	1	0	1	0	2	0	1	0	1
501	M51	1	max	.915	2	.007	1	.007	2	0	1	0	1	0	1
502			min	.158	1	.002	2	.003	1	0	2	0	1	0	1
503		2	max	.915	2	.003	1	.003	2	0	1	.003	1	.001	2
504			min	.158	1	.001	2	.001	1	0	2	.003	2	-.001	1
505		3	max	.915	2	0	1	0	1	0	1	.004	1	.002	2
506			min	.158	1	0	1	0	1	0	2	.004	2	-.002	1
507		4	max	.915	2	-.001	2	-.001	1	0	1	.003	1	.001	2
508			min	.158	1	-.003	1	-.003	2	0	2	.003	2	-.001	1
509		5	max	.915	2	-.002	2	-.003	1	0	1	0	1	0	1
510			min	.158	1	-.007	1	-.007	2	0	2	0	1	0	1
511	M52	1	max	-.46	1	.007	1	0	1	0	2	0	1	0	1
512			min	-1.04	2	.002	2	0	1	0	1	0	1	0	1
513		2	max	-.46	1	.003	1	0	1	0	2	.002	1	0	2
514			min	-1.04	2	.001	2	0	1	0	1	0	2	-.002	1
515		3	max	-.46	1	0	1	0	1	0	2	.003	1	0	2
516			min	-1.04	2	0	1	0	1	0	1	0	2	-.003	1
517		4	max	-.46	1	-.001	2	0	1	0	2	.002	1	0	2
518			min	-1.04	2	-.003	1	0	1	0	1	0	2	-.002	1
519		5	max	-.46	1	-.002	2	0	1	0	2	0	1	0	1
520			min	-1.04	2	-.007	1	0	1	0	1	0	1	0	1
521	M53	1	max	-.185	1	.007	1	.011	2	0	2	0	1	0	1
522			min	-1.158	2	.002	2	.005	1	0	1	0	1	0	1
523		2	max	-.181	1	.003	1	.006	2	0	2	.007	2	.005	2
524			min	-1.156	2	.001	2	.002	1	0	1	.006	1	0	1
525		3	max	-.177	1	0	1	0	1	0	2	.009	2	.006	2
526			min	-1.155	2	0	1	0	1	0	1	.008	1	-.001	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
527		4	max	-.172	1	-.001	2	-.002	1	0	2	.007	2	.005	2
528			min	-1.154	2	-.003	1	-.006	2	0	1	.006	1	0	1
529		5	max	-.168	1	-.002	2	-.005	1	0	2	0	1	0	1
530			min	-1.152	2	-.007	1	-.011	2	0	1	0	1	0	1
531	M54	1	max	-.272	1	.007	1	.011	2	0	1	0	1	0	1
532			min	-1.449	2	.002	2	.005	1	0	2	0	1	0	1
533		2	max	-.276	1	.003	1	.006	2	0	1	.007	2	.005	2
534			min	-1.451	2	.001	2	.002	1	0	2	.006	1	0	1
535		3	max	-.281	1	0	1	0	1	0	1	.009	2	.006	2
536			min	-1.452	2	0	1	0	1	0	2	.008	1	-.001	1
537		4	max	-.285	1	-.001	2	-.002	1	0	1	.007	2	.005	2
538			min	-1.453	2	-.003	1	-.006	2	0	2	.006	1	0	1
539		5	max	-.289	1	-.002	2	-.005	1	0	1	0	1	0	1
540			min	-1.455	2	-.007	1	-.011	2	0	2	0	1	0	1
541	M55	1	max	.062	2	.007	1	0	1	0	2	0	1	0	1
542			min	.01	1	.002	2	0	1	0	1	0	1	0	1
543		2	max	.062	2	.003	1	0	1	0	2	.002	1	0	2
544			min	.01	1	.001	2	0	1	0	1	0	2	-.002	1
545		3	max	.062	2	0	1	0	1	0	2	.003	1	0	2
546			min	.01	1	0	1	0	1	0	1	0	2	-.003	1
547		4	max	.062	2	-.001	2	0	1	0	2	.002	1	0	2
548			min	.01	1	-.003	1	0	1	0	1	0	2	-.002	1
549		5	max	.062	2	-.002	2	0	1	0	2	0	1	0	1
550			min	.01	1	-.007	1	0	1	0	1	0	1	0	1
551	M56	1	max	1.626	2	.007	1	0	1	0	2	0	1	0	1
552			min	.693	1	.002	2	0	1	0	1	0	1	0	1
553		2	max	1.627	2	.003	1	0	1	0	2	.003	1	-.001	2
554			min	.697	1	.001	2	0	1	0	1	.001	2	-.003	1
555		3	max	1.629	2	0	1	0	1	0	2	.004	1	-.001	2
556			min	.702	1	0	1	0	1	0	1	.001	2	-.004	1
557		4	max	1.63	2	-.001	2	0	1	0	2	.003	1	-.001	2
558			min	.706	1	-.003	1	0	1	0	1	.001	2	-.003	1
559		5	max	1.631	2	-.002	2	0	1	0	2	0	1	0	1
560			min	.71	1	-.007	1	0	1	0	1	0	1	0	1
561	M57	1	max	1.336	2	.007	1	0	1	0	1	0	1	0	1
562			min	.614	1	.002	2	0	1	0	2	0	1	0	1
563		2	max	1.334	2	.003	1	0	1	0	1	.003	1	-.001	2
564			min	.61	1	.001	2	0	1	0	2	.001	2	-.003	1
565		3	max	1.333	2	0	1	0	1	0	1	.004	1	-.001	2
566			min	.606	1	0	1	0	1	0	2	.001	2	-.004	1
567		4	max	1.331	2	-.001	2	0	1	0	1	.003	1	-.001	2
568			min	.601	1	-.003	1	0	1	0	2	.001	2	-.003	1
569		5	max	1.33	2	-.002	2	0	1	0	1	0	1	0	1
570			min	.597	1	-.007	1	0	1	0	2	0	1	0	1
571	M58	1	max	-.032	1	.007	1	0	1	0	1	0	1	0	1
572			min	-.071	2	.002	2	0	1	0	2	0	1	0	1
573		2	max	-.032	1	.003	1	0	1	0	1	.002	1	0	2
574			min	-.071	2	.001	2	0	1	0	2	0	2	-.002	1
575		3	max	-.032	1	0	1	0	1	0	1	.003	1	0	2
576			min	-.071	2	0	1	0	1	0	2	0	2	-.003	1
577		4	max	-.032	1	-.001	2	0	1	0	1	.002	1	0	2
578			min	-.071	2	-.003	1	0	1	0	2	0	2	-.002	1
579		5	max	-.032	1	-.002	2	0	1	0	1	0	1	0	1
580			min	-.071	2	-.007	1	0	1	0	2	0	1	0	1
581	M59	1	max	-.456	1	.007	1	0	1	0	1	0	1	0	1
582			min	-1.536	2	.002	2	0	1	0	2	0	1	0	1
583		2	max	-.46	1	.003	1	0	1	0	1	.003	1	0	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
584			min	-1.537	2	.001	2	0	1	0	2	0	2	-.003	1
585		3	max	-.464	1	0	1	0	1	0	1	.004	1	-.001	2
586			min	-1.539	2	0	1	0	1	0	2	.001	2	-.004	1
587		4	max	-.467	1	-.001	2	0	1	0	1	.003	1	0	2
588			min	-1.54	2	-.003	1	0	1	0	2	0	2	-.003	1
589		5	max	-.471	1	-.002	2	0	1	0	1	0	1	0	1
590			min	-1.541	2	-.007	1	0	1	0	2	0	1	0	1
591	M60	1	max	1.602	2	.007	1	0	1	0	2	0	1	0	1
592			min	.563	1	.002	2	0	1	0	1	0	1	0	1
593		2	max	1.604	2	.003	1	0	1	0	2	.003	1	0	2
594			min	.567	1	.001	2	0	1	0	1	0	2	-.003	1
595		3	max	1.605	2	0	1	0	1	0	2	.004	1	-.001	2
596			min	.571	1	0	1	0	1	0	1	.001	2	-.004	1
597		4	max	1.606	2	-.001	2	0	1	0	2	.003	1	0	2
598			min	.575	1	-.003	1	0	1	0	1	0	2	-.003	1
599		5	max	1.607	2	-.002	2	0	1	0	2	0	1	0	1
600			min	.578	1	-.007	1	0	1	0	1	0	1	0	1
601	M61	1	max	-.041	1	.007	1	-.004	1	0	1	0	1	0	1
602			min	-.227	2	.002	2	-.014	2	0	2	0	1	0	1
603		2	max	-.044	1	.003	1	-.002	1	0	1	.001	1	-.005	1
604			min	-.229	2	.001	2	-.007	2	0	2	-.006	2	-.008	2
605		3	max	-.048	1	0	1	0	1	0	1	.001	1	-.007	1
606			min	-.23	2	0	1	0	1	0	2	-.008	2	-.01	2
607		4	max	-.052	1	-.001	2	.007	2	0	1	.001	1	-.005	1
608			min	-.231	2	-.003	1	.002	1	0	2	-.006	2	-.008	2
609		5	max	-.056	1	-.002	2	.014	2	0	1	0	1	0	1
610			min	-.232	2	-.007	1	.004	1	0	2	0	1	0	1
611	M62	1	max	-.005	1	.007	1	.014	2	0	2	0	1	0	1
612			min	-.142	2	.002	2	.004	1	0	1	0	1	0	1
613		2	max	-.009	1	.003	1	.007	2	0	2	.008	2	.006	2
614			min	-.144	2	.001	2	.002	1	0	1	.005	1	-.001	1
615		3	max	-.012	1	0	1	0	1	0	2	.01	2	.008	2
616			min	-.145	2	0	1	0	1	0	1	.007	1	-.001	1
617		4	max	-.016	1	-.001	2	-.002	1	0	2	.008	2	.006	2
618			min	-.146	2	-.003	1	-.007	2	0	1	.005	1	-.001	1
619		5	max	-.02	1	-.002	2	-.004	1	0	2	0	1	0	1
620			min	-.147	2	-.007	1	-.014	2	0	1	0	1	0	1
621	M63	1	max	-.427	1	.007	1	0	1	0	1	0	1	0	1
622			min	-1.456	2	.002	2	0	1	0	2	0	1	0	1
623		2	max	-.431	1	.003	1	0	1	0	1	.003	1	0	2
624			min	-1.457	2	.001	2	0	1	0	2	0	2	-.003	1
625		3	max	-.435	1	0	1	0	1	0	1	.004	1	-.001	2
626			min	-1.458	2	0	1	0	1	0	2	.001	2	-.004	1
627		4	max	-.439	1	-.001	2	0	1	0	1	.003	1	0	2
628			min	-1.46	2	-.003	1	0	1	0	2	0	2	-.003	1
629		5	max	-.442	1	-.002	2	0	1	0	1	0	1	0	1
630			min	-1.461	2	-.007	1	0	1	0	2	0	1	0	1
631	M64	1	max	1.679	2	.007	1	0	1	0	2	0	1	0	1
632			min	.584	1	.002	2	0	1	0	1	0	1	0	1
633		2	max	1.68	2	.003	1	0	1	0	2	.003	1	0	2
634			min	.587	1	.001	2	0	1	0	1	0	2	-.003	1
635		3	max	1.681	2	0	1	0	1	0	2	.004	1	-.001	2
636			min	.591	1	0	1	0	1	0	1	.001	2	-.004	1
637		4	max	1.683	2	-.001	2	0	1	0	2	.003	1	0	2
638			min	.595	1	-.003	1	0	1	0	1	0	2	-.003	1
639		5	max	1.684	2	-.002	2	0	1	0	2	0	1	0	1
640			min	.599	1	-.007	1	0	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
641	M65	1	max	.258	2	.007	1	0	1	0	2	0	1	0	1
642			min	.115	1	.002	2	0	1	0	1	0	1	0	1
643		2	max	.257	2	.003	1	0	1	0	2	.003	1	0	2
644			min	.111	1	.001	2	0	1	0	1	0	2	-.003	1
645		3	max	.255	2	0	1	0	1	0	2	.004	1	-.001	2
646			min	.107	1	0	1	0	1	0	1	.001	2	-.004	1
647		4	max	.254	2	-.001	2	0	1	0	2	.003	1	0	2
648			min	.104	1	-.003	1	0	1	0	1	0	2	-.003	1
649		5	max	.253	2	-.002	2	0	1	0	2	0	1	0	1
650			min	.1	1	-.007	1	0	1	0	1	0	1	0	1
651	M66	1	max	.174	2	.007	1	0	1	0	1	0	1	0	1
652			min	.091	1	.002	2	0	1	0	2	0	1	0	1
653		2	max	.173	2	.003	1	0	1	0	1	.003	1	0	2
654			min	.087	1	.001	2	0	1	0	2	0	2	-.003	1
655		3	max	.172	2	0	1	0	1	0	1	.004	1	-.001	2
656			min	.083	1	0	1	0	1	0	2	.001	2	-.004	1
657		4	max	.171	2	-.001	2	0	1	0	1	.003	1	0	2
658			min	.079	1	-.003	1	0	1	0	2	0	2	-.003	1
659		5	max	.169	2	-.002	2	0	1	0	1	0	1	0	1
660			min	.076	1	-.007	1	0	1	0	2	0	1	0	1
661	M67	1	max	.136	2	.007	1	.014	2	0	2	0	1	0	1
662			min	.026	1	.002	2	.004	1	0	1	0	1	0	1
663		2	max	.135	2	.003	1	.007	2	0	2	.008	2	.006	2
664			min	.022	1	.001	2	.002	1	0	1	.005	1	-.001	1
665		3	max	.134	2	0	1	0	1	0	2	.01	2	.008	2
666			min	.018	1	0	1	0	1	0	1	.007	1	-.001	1
667		4	max	.132	2	-.001	2	-.002	1	0	2	.008	2	.006	2
668			min	.014	1	-.003	1	-.007	2	0	1	.005	1	-.001	1
669		5	max	.131	2	-.002	2	-.004	1	0	2	0	1	0	1
670			min	.011	1	-.007	1	-.014	2	0	1	0	1	0	1
671	M68	1	max	.131	2	.007	1	.014	2	0	1	0	1	0	1
672			min	.019	1	.002	2	.004	1	0	2	0	1	0	1
673		2	max	.132	2	.003	1	.007	2	0	1	.008	2	.006	2
674			min	.022	1	.001	2	.002	1	0	2	.005	1	-.001	1
675		3	max	.133	2	0	1	0	1	0	1	.01	2	.008	2
676			min	.026	1	0	1	0	1	0	2	.007	1	-.001	1
677		4	max	.134	2	-.001	2	-.002	1	0	1	.008	2	.006	2
678			min	.03	1	-.003	1	-.007	2	0	2	.005	1	-.001	1
679		5	max	.135	2	-.002	2	-.004	1	0	1	0	1	0	1
680			min	.034	1	-.007	1	-.014	2	0	2	0	1	0	1
681	M69	1	max	-.462	1	.007	1	0	1	0	2	0	1	0	1
682			min	-1.408	2	.002	2	0	1	0	1	0	1	0	1
683		2	max	-.466	1	.003	1	0	1	0	2	.003	1	0	2
684			min	-1.409	2	.001	2	0	1	0	1	0	2	-.003	1
685		3	max	-.47	1	0	1	0	1	0	2	.004	1	-.001	2
686			min	-1.41	2	0	1	0	1	0	1	.001	2	-.004	1
687		4	max	-.474	1	-.001	2	0	1	0	2	.003	1	0	2
688			min	-1.412	2	-.003	1	0	1	0	1	0	2	-.003	1
689		5	max	-.478	1	-.002	2	0	1	0	2	0	1	0	1
690			min	-1.413	2	-.007	1	0	1	0	1	0	1	0	1
691	M70	1	max	1.544	2	.007	1	0	1	0	1	0	1	0	1
692			min	.464	1	.002	2	0	1	0	2	0	1	0	1
693		2	max	1.545	2	.003	1	0	1	0	1	.003	1	0	2
694			min	.468	1	.001	2	0	1	0	2	0	2	-.003	1
695		3	max	1.547	2	0	1	0	1	0	1	.004	1	-.001	2
696			min	.472	1	0	1	0	1	0	2	.001	2	-.004	1
697		4	max	1.548	2	-.001	2	0	1	0	1	.003	1	0	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
698			min	.476	1	-.003	1	0	1	0	2	0	2	-.003	1
699		5	max	1.549	2	-.002	2	0	1	0	1	0	1	0	1
700			min	.479	1	-.007	1	0	1	0	2	0	1	0	1
701	M71	1	max	-.477	1	.007	1	0	1	0	2	0	1	0	1
702			min	-1.437	2	.002	2	0	1	0	1	0	1	0	1
703		2	max	-.481	1	.003	1	0	1	0	2	.003	1	0	2
704			min	-1.439	2	.001	2	0	1	0	1	0	2	-.003	1
705		3	max	-.485	1	0	1	0	1	0	2	.004	1	-.001	2
706			min	-1.44	2	0	1	0	1	0	1	.001	2	-.004	1
707		4	max	-.489	1	-.001	2	0	1	0	2	.003	1	0	2
708			min	-1.441	2	-.003	1	0	1	0	1	0	2	-.003	1
709		5	max	-.493	1	-.002	2	0	1	0	2	0	1	0	1
710			min	-1.442	2	-.007	1	0	1	0	1	0	1	0	1
711	M72	1	max	1.52	2	.007	1	0	1	0	1	0	1	0	1
712			min	.462	1	.002	2	0	1	0	2	0	1	0	1
713		2	max	1.521	2	.003	1	0	1	0	1	.003	1	0	2
714			min	.466	1	.001	2	0	1	0	2	0	2	-.003	1
715		3	max	1.522	2	0	1	0	1	0	1	.004	1	-.001	2
716			min	.47	1	0	1	0	1	0	2	.001	2	-.004	1
717		4	max	1.524	2	-.001	2	0	1	0	1	.003	1	0	2
718			min	.474	1	-.003	1	0	1	0	2	0	2	-.003	1
719		5	max	1.525	2	-.002	2	0	1	0	1	0	1	0	1
720			min	.478	1	-.007	1	0	1	0	2	0	1	0	1
721	M73	1	max	-.056	1	.007	1	0	1	0	2	0	1	0	1
722			min	-.148	2	.002	2	0	1	0	1	0	1	0	1
723		2	max	-.06	1	.003	1	0	1	0	2	.003	1	0	2
724			min	-.149	2	.001	2	0	1	0	1	0	2	-.003	1
725		3	max	-.064	1	0	1	0	1	0	2	.004	1	-.001	2
726			min	-.151	2	0	1	0	1	0	1	.001	2	-.004	1
727		4	max	-.067	1	-.001	2	0	1	0	2	.003	1	0	2
728			min	-.152	2	-.003	1	0	1	0	1	0	2	-.003	1
729		5	max	-.071	1	-.002	2	0	1	0	2	0	1	0	1
730			min	-.153	2	-.007	1	0	1	0	1	0	1	0	1
731	M74	1	max	-.079	1	.007	1	0	1	0	1	0	1	0	1
732			min	-.155	2	.002	2	0	1	0	2	0	1	0	1
733		2	max	-.075	1	.003	1	0	1	0	1	.003	1	0	2
734			min	-.154	2	.001	2	0	1	0	2	0	2	-.003	1
735		3	max	-.071	1	0	1	0	1	0	1	.004	1	-.001	2
736			min	-.153	2	0	1	0	1	0	2	.001	2	-.004	1
737		4	max	-.067	1	-.001	2	0	1	0	1	.003	1	0	2
738			min	-.152	2	-.003	1	0	1	0	2	0	2	-.003	1
739		5	max	-.063	1	-.002	2	0	1	0	1	0	1	0	1
740			min	-.151	2	-.007	1	0	1	0	2	0	1	0	1
741	M75	1	max	-.385	1	.007	1	0	1	0	1	0	1	0	1
742			min	-1.312	2	.002	2	0	1	0	2	0	1	0	1
743		2	max	-.389	1	.003	1	0	1	0	1	.003	1	0	2
744			min	-1.313	2	.001	2	0	1	0	2	0	2	-.003	1
745		3	max	-.393	1	0	1	0	1	0	1	.004	1	-.001	2
746			min	-1.315	2	0	1	0	1	0	2	.001	2	-.004	1
747		4	max	-.397	1	-.001	2	0	1	0	1	.003	1	0	2
748			min	-1.316	2	-.003	1	0	1	0	2	0	2	-.003	1
749		5	max	-.4	1	-.002	2	0	1	0	1	0	1	0	1
750			min	-1.317	2	-.007	1	0	1	0	2	0	1	0	1
751	M76	1	max	1.411	2	.007	1	0	1	0	2	0	1	0	1
752			min	.451	1	.002	2	0	1	0	1	0	1	0	1
753		2	max	1.413	2	.003	1	0	1	0	2	.003	1	0	2
754			min	.454	1	.001	2	0	1	0	1	0	2	-.003	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
755		3	max	1.414	2	0	1	0	1	0	2	.004	1	-.001	2
756			min	.458	1	0	1	0	1	0	1	.001	2	-.004	1
757		4	max	1.415	2	-.001	2	0	1	0	2	.003	1	0	2
758			min	.462	1	-.003	1	0	1	0	1	0	2	-.003	1
759		5	max	1.416	2	-.002	2	0	1	0	2	0	1	0	1
760			min	.466	1	-.007	1	0	1	0	1	0	1	0	1
761	M77	1	max	.083	2	.007	1	0	1	0	2	0	1	0	1
762			min	.039	1	.002	2	0	1	0	1	0	1	0	1
763		2	max	.082	2	.003	1	0	1	0	2	.003	1	0	2
764			min	.035	1	.001	2	0	1	0	1	0	2	-.003	1
765		3	max	.081	2	0	1	0	1	0	2	.004	1	-.001	2
766			min	.031	1	0	1	0	1	0	1	.001	2	-.004	1
767		4	max	.08	2	-.001	2	0	1	0	2	.003	1	0	2
768			min	.028	1	-.003	1	0	1	0	1	0	2	-.003	1
769		5	max	.078	2	-.002	2	0	1	0	2	0	1	0	1
770			min	.024	1	-.007	1	0	1	0	1	0	1	0	1
771	M78	1	max	.065	2	.007	1	0	1	0	1	0	1	0	1
772			min	.026	1	.002	2	0	1	0	2	0	1	0	1
773		2	max	.066	2	.003	1	0	1	0	1	.003	1	0	2
774			min	.03	1	.001	2	0	1	0	2	0	2	-.003	1
775		3	max	.067	2	0	1	0	1	0	1	.004	1	-.001	2
776			min	.033	1	0	1	0	1	0	2	.001	2	-.004	1
777		4	max	.068	2	-.001	2	0	1	0	1	.003	1	0	2
778			min	.037	1	-.003	1	0	1	0	2	0	2	-.003	1
779		5	max	.069	2	-.002	2	0	1	0	1	0	1	0	1
780			min	.041	1	-.007	1	0	1	0	2	0	1	0	1
781	M79	1	max	1.438	2	.007	1	0	1	0	2	0	1	0	1
782			min	.464	1	.002	2	0	1	0	1	0	1	0	1
783		2	max	1.439	2	.003	1	0	1	0	2	.003	1	0	2
784			min	.468	1	.001	2	0	1	0	1	0	2	-.003	1
785		3	max	1.441	2	0	1	0	1	0	2	.004	1	-.001	2
786			min	.472	1	0	1	0	1	0	1	.001	2	-.004	1
787		4	max	1.442	2	-.001	2	0	1	0	2	.003	1	0	2
788			min	.476	1	-.003	1	0	1	0	1	0	2	-.003	1
789		5	max	1.443	2	-.002	2	0	1	0	2	0	1	0	1
790			min	.479	1	-.007	1	0	1	0	1	0	1	0	1
791	M80	1	max	-.384	1	.007	1	0	1	0	2	0	1	0	1
792			min	-1.29	2	.002	2	0	1	0	1	0	1	0	1
793		2	max	-.387	1	.003	1	0	1	0	2	.003	1	0	2
794			min	-1.291	2	.001	2	0	1	0	1	0	2	-.003	1
795		3	max	-.391	1	0	1	0	1	0	2	.004	1	-.001	2
796			min	-1.293	2	0	1	0	1	0	1	.001	2	-.004	1
797		4	max	-.395	1	-.001	2	0	1	0	2	.003	1	0	2
798			min	-1.294	2	-.003	1	0	1	0	1	0	2	-.003	1
799		5	max	-.399	1	-.002	2	0	1	0	2	0	1	0	1
800			min	-1.295	2	-.007	1	0	1	0	1	0	1	0	1
801	M81	1	max	.002	1	.007	1	.014	2	0	2	0	1	0	1
802			min	-.055	2	.002	2	.004	1	0	1	0	1	0	1
803		2	max	-.002	1	.003	1	.007	2	0	2	.008	2	.006	2
804			min	-.056	2	.001	2	.002	1	0	1	.005	1	-.001	1
805		3	max	-.005	1	0	1	0	1	0	2	.01	2	.008	2
806			min	-.057	2	0	1	0	1	0	1	.007	1	-.001	1
807		4	max	-.009	1	-.001	2	-.002	1	0	2	.008	2	.006	2
808			min	-.059	2	-.003	1	-.007	2	0	1	.005	1	-.001	1
809		5	max	-.013	1	-.002	2	-.004	1	0	2	0	1	0	1
810			min	-.06	2	-.007	1	-.014	2	0	1	0	1	0	1
811	M82	1	max	-.025	1	.007	1	.014	2	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
812			min	-.075	2	.002	2	.004	1	0	2	0	1	0	1
813		2	max	-.021	1	.003	1	.007	2	0	1	.008	2	.006	2
814			min	-.073	2	.001	2	.002	1	0	2	.005	1	-.001	1
815		3	max	-.017	1	0	1	0	1	0	1	.01	2	.008	2
816			min	-.072	2	0	1	0	1	0	2	.007	1	-.001	1
817		4	max	-.013	1	-.001	2	-.002	1	0	1	.008	2	.006	2
818			min	-.071	2	-.003	1	-.007	2	0	2	.005	1	-.001	1
819		5	max	-.01	1	-.002	2	-.004	1	0	1	0	1	0	1
820			min	-.07	2	-.007	1	-.014	2	0	2	0	1	0	1
821	M83	1	max	.013	2	.007	1	.014	2	0	2	0	1	0	1
822			min	-.005	1	.002	2	.004	1	0	1	0	1	0	1
823		2	max	.014	2	.003	1	.007	2	0	2	.008	2	.006	2
824			min	-.001	1	.001	2	.002	1	0	1	.005	1	-.001	1
825		3	max	.016	2	0	1	0	1	0	2	.01	2	.008	2
826			min	.002	1	0	1	0	1	0	1	.007	1	-.001	1
827		4	max	.017	2	-.001	2	-.002	1	0	2	.008	2	.006	2
828			min	.006	1	-.003	1	-.007	2	0	1	.005	1	-.001	1
829		5	max	.018	2	-.002	2	-.004	1	0	2	0	1	0	1
830			min	.01	1	-.007	1	-.014	2	0	1	0	1	0	1
831	M84	1	max	.018	2	.007	1	.014	2	0	1	0	1	0	1
832			min	.009	1	.002	2	.004	1	0	2	0	1	0	1
833		2	max	.016	2	.003	1	.007	2	0	1	.008	2	.006	2
834			min	.005	1	.001	2	.002	1	0	2	.005	1	-.001	1
835		3	max	.015	2	0	1	0	1	0	1	.01	2	.008	2
836			min	.001	1	0	1	0	1	0	2	.007	1	-.001	1
837		4	max	.014	2	-.001	2	-.002	1	0	1	.008	2	.006	2
838			min	-.003	1	-.003	1	-.007	2	0	2	.005	1	-.001	1
839		5	max	.013	2	-.002	2	-.004	1	0	1	0	1	0	1
840			min	-.007	1	-.007	1	-.014	2	0	2	0	1	0	1
841	M85	1	max	-.327	1	.007	1	0	1	0	2	0	1	0	1
842			min	-1.09	2	.002	2	0	1	0	1	0	1	0	1
843		2	max	-.33	1	.003	1	0	1	0	2	.003	1	0	2
844			min	-1.092	2	.001	2	0	1	0	1	0	2	-.003	1
845		3	max	-.334	1	0	1	0	1	0	2	.004	1	-.001	2
846			min	-1.093	2	0	1	0	1	0	1	.001	2	-.004	1
847		4	max	-.338	1	-.001	2	0	1	0	2	.003	1	0	2
848			min	-1.094	2	-.003	1	0	1	0	1	0	2	-.003	1
849		5	max	-.342	1	-.002	2	0	1	0	2	0	1	0	1
850			min	-1.095	2	-.007	1	0	1	0	1	0	1	0	1
851	M86	1	max	1.255	2	.007	1	0	1	0	1	0	1	0	1
852			min	.379	1	.002	2	0	1	0	2	0	1	0	1
853		2	max	1.256	2	.003	1	0	1	0	1	.003	1	0	2
854			min	.383	1	.001	2	0	1	0	2	0	2	-.003	1
855		3	max	1.257	2	0	1	0	1	0	1	.004	1	-.001	2
856			min	.386	1	0	1	0	1	0	2	.001	2	-.004	1
857		4	max	1.258	2	-.001	2	0	1	0	1	.003	1	0	2
858			min	.39	1	-.003	1	0	1	0	2	0	2	-.003	1
859		5	max	1.259	2	-.002	2	0	1	0	1	0	1	0	1
860			min	.394	1	-.007	1	0	1	0	2	0	1	0	1
861	M87	1	max	-.002	1	.007	1	0	1	0	1	0	1	0	1
862			min	-.018	2	.002	2	0	1	0	2	0	1	0	1
863		2	max	-.006	1	.003	1	0	1	0	1	.003	1	0	2
864			min	-.019	2	.001	2	0	1	0	2	0	2	-.003	1
865		3	max	-.01	1	0	1	0	1	0	1	.004	1	-.001	2
866			min	-.02	2	0	1	0	1	0	2	.001	2	-.004	1
867		4	max	-.014	1	-.001	2	0	1	0	1	.003	1	0	2
868			min	-.021	2	-.003	1	0	1	0	2	0	2	-.003	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
869		5	max	-.017	1	-.002	2	0	1	0	1	0	1	0	1
870			min	-.023	2	-.007	1	0	1	0	2	0	1	0	1
871	M88	1	max	-.017	1	.007	1	0	1	0	2	0	1	0	1
872			min	-.021	2	.002	2	0	1	0	1	0	1	0	1
873		2	max	-.014	1	.003	1	0	1	0	2	.003	1	0	2
874			min	-.02	2	.001	2	0	1	0	1	0	2	-.003	1
875		3	max	-.01	1	0	1	0	1	0	2	.004	1	-.001	2
876			min	-.019	2	0	1	0	1	0	1	.001	2	-.004	1
877		4	max	-.006	1	-.001	2	0	1	0	2	.003	1	0	2
878			min	-.018	2	-.003	1	0	1	0	1	0	2	-.003	1
879		5	max	-.002	1	-.002	2	0	1	0	2	0	1	0	1
880			min	-.016	2	-.007	1	0	1	0	1	0	1	0	1
881	M89	1	max	-.342	1	.007	1	0	1	0	2	0	1	0	1
882			min	-1.14	2	.002	2	0	1	0	1	0	1	0	1
883		2	max	-.345	1	.003	1	0	1	0	2	.003	1	0	2
884			min	-1.141	2	.001	2	0	1	0	1	0	2	-.003	1
885		3	max	-.349	1	0	1	0	1	0	2	.004	1	-.001	2
886			min	-1.143	2	0	1	0	1	0	1	.001	2	-.004	1
887		4	max	-.353	1	-.001	2	0	1	0	2	.003	1	0	2
888			min	-1.144	2	-.003	1	0	1	0	1	0	2	-.003	1
889		5	max	-.357	1	-.002	2	0	1	0	2	0	1	0	1
890			min	-1.145	2	-.007	1	0	1	0	1	0	1	0	1
891	M90	1	max	1.205	2	.007	1	0	1	0	1	0	1	0	1
892			min	.363	1	.002	2	0	1	0	2	0	1	0	1
893		2	max	1.206	2	.003	1	0	1	0	1	.003	1	0	2
894			min	.367	1	.001	2	0	1	0	2	0	2	-.003	1
895		3	max	1.207	2	0	1	0	1	0	1	.004	1	-.001	2
896			min	.371	1	0	1	0	1	0	2	.001	2	-.004	1
897		4	max	1.208	2	-.001	2	0	1	0	1	.003	1	0	2
898			min	.374	1	-.003	1	0	1	0	2	0	2	-.003	1
899		5	max	1.21	2	-.002	2	0	1	0	1	0	1	0	1
900			min	.378	1	-.007	1	0	1	0	2	0	1	0	1
901	M91	1	max	.007	1	.007	1	.013	2	0	2	0	1	0	1
902			min	-.002	2	.002	2	.004	1	0	1	0	1	0	1
903		2	max	.004	1	.003	1	.006	2	0	2	.006	2	.004	2
904			min	-.003	2	.001	2	.002	1	0	1	.004	1	-.001	1
905		3	max	0	1	0	1	0	1	0	2	.008	2	.006	2
906			min	-.004	2	0	1	0	1	0	1	.006	1	-.001	1
907		4	max	-.002	1	-.001	2	-.002	1	0	2	.006	2	.004	2
908			min	-.005	2	-.003	1	-.006	2	0	1	.004	1	-.001	1
909		5	max	-.005	1	-.002	2	-.004	1	0	2	0	1	0	1
910			min	-.006	2	-.007	1	-.013	2	0	1	0	1	0	1
911	M92	1	max	.01	2	.007	1	.013	2	0	1	0	1	0	1
912			min	0	1	.002	2	.004	1	0	2	0	1	0	1
913		2	max	.011	2	.003	1	.006	2	0	1	.006	2	.004	2
914			min	.003	1	.001	2	.002	1	0	2	.004	1	-.001	1
915		3	max	.012	2	0	1	0	1	0	1	.008	2	.006	2
916			min	.006	1	0	1	0	1	0	2	.006	1	-.001	1
917		4	max	.013	2	-.001	2	-.002	1	0	1	.006	2	.004	2
918			min	.009	1	-.003	1	-.006	2	0	2	.004	1	-.001	1
919		5	max	.014	2	-.002	2	-.004	1	0	1	0	1	0	1
920			min	.012	1	-.007	1	-.013	2	0	2	0	1	0	1
921	M93	1	max	-.346	1	.007	1	0	1	0	1	0	1	0	1
922			min	-1.216	2	.002	2	0	1	0	2	0	1	0	1
923		2	max	-.349	1	.003	1	0	1	0	1	.003	1	0	2
924			min	-1.217	2	.001	2	0	1	0	2	0	2	-.003	1
925		3	max	-.352	1	0	1	0	1	0	1	.004	1	-.001	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
926			min	-1.218	2	0	1	0	1	0	2	.001	2	-.004	1
927		4	max	-.355	1	-.001	2	0	1	0	1	.003	1	0	2
928			min	-1.219	2	-.003	1	0	1	0	2	0	2	-.003	1
929		5	max	-.358	1	-.002	2	0	1	0	1	0	1	0	1
930			min	-1.22	2	-.007	1	0	1	0	2	0	1	0	1
931	M94	1	max	1.285	2	.007	1	0	1	0	2	0	1	0	1
932			min	.382	1	.002	2	0	1	0	1	0	1	0	1
933		2	max	1.286	2	.003	1	0	1	0	2	.003	1	0	2
934			min	.385	1	.001	2	0	1	0	1	0	2	-.003	1
935		3	max	1.287	2	0	1	0	1	0	2	.004	1	-.001	2
936			min	.389	1	0	1	0	1	0	1	.001	2	-.004	1
937		4	max	1.288	2	-.001	2	0	1	0	2	.003	1	0	2
938			min	.392	1	-.003	1	0	1	0	1	0	2	-.003	1
939		5	max	1.289	2	-.002	2	0	1	0	2	0	1	0	1
940			min	.395	1	-.007	1	0	1	0	1	0	1	0	1
941	M95	1	max	.005	2	.007	1	0	1	0	1	0	1	0	1
942			min	-.002	1	.002	2	0	1	0	2	0	1	0	1
943		2	max	.006	2	.003	1	0	1	0	1	.003	1	0	2
944			min	.001	1	.001	2	0	1	0	2	0	2	-.003	1
945		3	max	.007	2	0	1	0	1	0	1	.004	1	-.001	2
946			min	.004	1	0	1	0	1	0	2	.001	2	-.004	1
947		4	max	.008	2	-.001	2	0	1	0	1	.003	1	0	2
948			min	.007	1	-.003	1	0	1	0	2	0	2	-.003	1
949		5	max	.01	1	-.002	2	0	1	0	1	0	1	0	1
950			min	.009	2	-.007	1	0	1	0	2	0	1	0	1
951	M96	1	max	.007	1	.007	1	0	1	0	2	0	1	0	1
952			min	-.006	2	.002	2	0	1	0	1	0	1	0	1
953		2	max	.004	1	.003	1	0	1	0	2	.003	1	0	2
954			min	-.007	2	.001	2	0	1	0	1	0	2	-.003	1
955		3	max	0	1	0	1	0	1	0	2	.004	1	-.001	2
956			min	-.008	2	0	1	0	1	0	1	.001	2	-.004	1
957		4	max	-.002	1	-.001	2	0	1	0	2	.003	1	0	2
958			min	-.009	2	-.003	1	0	1	0	1	0	2	-.003	1
959		5	max	-.005	1	-.002	2	0	1	0	2	0	1	0	1
960			min	-.01	2	-.007	1	0	1	0	1	0	1	0	1
961	M97	1	max	-.333	1	.007	1	0	1	0	1	0	1	0	1
962			min	-1.177	2	.002	2	0	1	0	2	0	1	0	1
963		2	max	-.336	1	.003	1	0	1	0	1	.003	1	0	2
964			min	-1.178	2	.001	2	0	1	0	2	0	2	-.003	1
965		3	max	-.339	1	0	1	0	1	0	1	.004	1	-.001	2
966			min	-1.178	2	0	1	0	1	0	2	.001	2	-.004	1
967		4	max	-.342	1	-.001	2	0	1	0	1	.003	1	0	2
968			min	-1.179	2	-.003	1	0	1	0	2	0	2	-.003	1
969		5	max	-.345	1	-.002	2	0	1	0	1	0	1	0	1
970			min	-1.18	2	-.007	1	0	1	0	2	0	1	0	1
971	M98	1	max	1.323	2	.007	1	0	1	0	2	0	1	0	1
972			min	.393	1	.002	2	0	1	0	1	0	1	0	1
973		2	max	1.324	2	.003	1	0	1	0	2	.003	1	0	2
974			min	.396	1	.001	2	0	1	0	1	0	2	-.003	1
975		3	max	1.325	2	0	1	0	1	0	2	.004	1	-.001	2
976			min	.399	1	0	1	0	1	0	1	.001	2	-.004	1
977		4	max	1.326	2	-.001	2	0	1	0	2	.003	1	0	2
978			min	.403	1	-.003	1	0	1	0	1	0	2	-.003	1
979		5	max	1.327	2	-.002	2	0	1	0	2	0	1	0	1
980			min	.406	1	-.007	1	0	1	0	1	0	1	0	1
981	M99	1	max	0	2	.018	1	0	1	0	1	0	1	0	1
982			min	0	1	.009	2	0	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
983		2	max	0	2	.009	1	0	1	0	1	0	1	-.004	2
984			min	0	1	.005	2	0	1	0	1	0	1	-.008	1
985		3	max	0	2	0	1	0	1	0	1	0	1	-.005	2
986			min	0	1	0	1	0	1	0	1	0	1	-.01	1
987		4	max	0	2	-.005	2	0	1	0	1	0	1	-.004	2
988			min	0	1	-.009	1	0	1	0	1	0	1	-.008	1
989		5	max	0	2	-.009	2	0	1	0	1	0	1	0	1
990			min	0	1	-.018	1	0	1	0	1	0	1	0	1
991	M100	1	max	0	1	.018	1	0	1	0	1	0	1	0	1
992			min	0	1	.009	2	0	1	0	1	0	1	0	1
993		2	max	0	1	.009	1	0	1	0	1	0	1	-.004	2
994			min	0	1	.005	2	0	1	0	1	0	1	-.008	1
995		3	max	0	1	0	1	0	1	0	1	0	1	-.005	2
996			min	0	1	0	1	0	1	0	1	0	1	-.01	1
997		4	max	0	1	-.005	2	0	1	0	1	0	1	-.004	2
998			min	0	1	-.009	1	0	1	0	1	0	1	-.008	1
999		5	max	0	1	-.009	2	0	1	0	1	0	1	0	1
1000			min	0	1	-.018	1	0	1	0	1	0	1	0	1
1001	M101	1	max	0	1	.018	1	0	1	0	1	0	1	0	1
1002			min	0	2	.009	2	0	1	0	1	0	1	0	1
1003		2	max	0	1	.009	1	0	1	0	1	0	1	-.004	2
1004			min	0	2	.005	2	0	1	0	1	0	1	-.008	1
1005		3	max	0	1	0	1	0	1	0	1	0	1	-.005	2
1006			min	0	2	0	1	0	1	0	1	0	1	-.01	1
1007		4	max	0	1	-.005	2	0	1	0	1	0	1	-.004	2
1008			min	0	2	-.009	1	0	1	0	1	0	1	-.008	1
1009		5	max	0	1	-.009	2	0	1	0	1	0	1	0	1
1010			min	0	2	-.018	1	0	1	0	1	0	1	0	1
1011	M102	1	max	0	1	.018	1	0	1	0	1	0	1	0	1
1012			min	0	1	.009	2	0	1	0	1	0	1	0	1
1013		2	max	0	1	.009	1	0	1	0	1	0	1	-.004	2
1014			min	0	1	.005	2	0	1	0	1	0	1	-.008	1
1015		3	max	0	1	0	1	0	1	0	1	0	1	-.005	2
1016			min	0	1	0	1	0	1	0	1	0	1	-.01	1
1017		4	max	0	1	-.005	2	0	1	0	1	0	1	-.004	2
1018			min	0	1	-.009	1	0	1	0	1	0	1	-.008	1
1019		5	max	0	1	-.009	2	0	1	0	1	0	1	0	1
1020			min	0	1	-.018	1	0	1	0	1	0	1	0	1
1021	M103	1	max	-.057	1	.003	1	0	1	0	2	0	1	0	1
1022			min	-.087	2	.001	2	0	1	0	1	0	1	0	1
1023		2	max	-.055	1	.002	1	0	1	0	2	0	1	0	2
1024			min	-.086	2	0	2	0	1	0	1	0	2	0	1
1025		3	max	-.054	1	0	1	0	1	0	2	0	1	0	2
1026			min	-.086	2	0	1	0	1	0	1	0	2	0	1
1027		4	max	-.052	1	0	2	0	1	0	2	0	1	0	2
1028			min	-.085	2	-.002	1	0	1	0	1	0	2	0	1
1029		5	max	-.051	1	-.001	2	0	1	0	2	0	1	0	1
1030			min	-.085	2	-.003	1	0	1	0	1	0	1	0	1
1031	M104	1	max	.08	2	.003	1	0	1	0	2	0	1	0	1
1032			min	.032	1	.001	2	0	1	0	1	0	1	0	1
1033		2	max	.08	2	.002	1	0	1	0	2	0	1	0	2
1034			min	.031	1	0	2	0	1	0	1	0	2	0	1
1035		3	max	.079	2	0	1	0	1	0	2	0	1	0	2
1036			min	.029	1	0	1	0	1	0	1	0	2	0	1
1037		4	max	.079	2	0	2	0	1	0	2	0	1	0	2
1038			min	.028	1	-.002	1	0	1	0	1	0	2	0	1
1039		5	max	.079	2	-.001	2	0	1	0	2	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1040			min	.026	1	-.003	1	0	1	0	1	0	1	0	1
1041	M105	1	max	.123	2	.003	1	0	1	0	1	0	1	0	1
1042			min	.076	1	.001	2	0	1	0	2	0	1	0	1
1043		2	max	.122	2	.002	1	0	1	0	1	0	1	0	2
1044			min	.074	1	0	2	0	1	0	2	0	2	0	1
1045		3	max	.122	2	0	1	0	1	0	1	0	1	0	2
1046			min	.073	1	0	1	0	1	0	2	0	2	0	1
1047		4	max	.121	2	0	2	0	1	0	1	0	1	0	2
1048			min	.071	1	-.002	1	0	1	0	2	0	2	0	1
1049		5	max	.121	2	-.001	2	0	1	0	1	0	1	0	1
1050			min	.07	1	-.003	1	0	1	0	2	0	1	0	1
1051	M106	1	max	-.049	1	.003	1	0	1	0	2	0	1	0	1
1052			min	-.113	2	.001	2	0	1	0	1	0	1	0	1
1053		2	max	-.048	1	.002	1	0	1	0	2	0	1	0	2
1054			min	-.112	2	0	2	0	1	0	1	0	2	0	1
1055		3	max	-.046	1	0	1	0	1	0	2	0	1	0	2
1056			min	-.112	2	0	1	0	1	0	1	0	2	0	1
1057		4	max	-.045	1	0	2	0	1	0	2	0	1	0	2
1058			min	-.111	2	-.002	1	0	1	0	1	0	2	0	1
1059		5	max	-.043	1	-.001	2	0	1	0	2	0	1	0	1
1060			min	-.111	2	-.003	1	0	1	0	1	0	1	0	1
1061	M107	1	max	.122	2	.003	1	0	1	0	1	0	1	0	1
1062			min	.076	1	.001	2	0	1	0	2	0	1	0	1
1063		2	max	.122	2	.002	1	0	1	0	1	0	1	0	2
1064			min	.075	1	0	2	0	1	0	2	0	2	0	1
1065		3	max	.121	2	0	1	0	1	0	1	0	1	0	2
1066			min	.073	1	0	1	0	1	0	2	0	2	0	1
1067		4	max	.121	2	0	2	0	1	0	1	0	1	0	2
1068			min	.072	1	-.002	1	0	1	0	2	0	2	0	1
1069		5	max	.121	2	-.001	2	0	1	0	1	0	1	0	1
1070			min	.07	1	-.003	1	0	1	0	2	0	1	0	1
1071	M108	1	max	-.05	1	.003	1	0	1	0	2	0	1	0	1
1072			min	-.112	2	.001	2	0	1	0	1	0	1	0	1
1073		2	max	-.048	1	.002	1	0	1	0	2	0	1	0	2
1074			min	-.112	2	0	2	0	1	0	1	0	2	0	1
1075		3	max	-.047	1	0	1	0	1	0	2	0	1	0	2
1076			min	-.111	2	0	1	0	1	0	1	0	2	0	1
1077		4	max	-.045	1	0	2	0	1	0	2	0	1	0	2
1078			min	-.111	2	-.002	1	0	1	0	1	0	2	0	1
1079		5	max	-.044	1	-.001	2	0	1	0	2	0	1	0	1
1080			min	-.11	2	-.003	1	0	1	0	1	0	1	0	1
1081	M109	1	max	.078	2	.003	1	0	1	0	2	0	1	0	1
1082			min	.027	1	.001	2	0	1	0	1	0	1	0	1
1083		2	max	.079	2	.002	1	0	1	0	2	0	1	0	2
1084			min	.028	1	0	2	0	1	0	1	0	2	0	1
1085		3	max	.079	2	0	1	0	1	0	2	0	1	0	2
1086			min	.03	1	0	1	0	1	0	1	0	2	0	1
1087		4	max	.079	2	0	2	0	1	0	2	0	1	0	2
1088			min	.031	1	-.002	1	0	1	0	1	0	2	0	1
1089		5	max	.08	2	-.001	2	0	1	0	2	0	1	0	1
1090			min	.032	1	-.003	1	0	1	0	1	0	1	0	1
1091	M110	1	max	-.051	1	.003	1	0	1	0	1	0	1	0	1
1092			min	-.084	2	.001	2	0	1	0	2	0	1	0	1
1093		2	max	-.053	1	.002	1	0	1	0	1	0	1	0	2
1094			min	-.085	2	0	2	0	1	0	2	0	2	0	1
1095		3	max	-.054	1	0	1	0	1	0	1	0	1	0	2
1096			min	-.085	2	0	1	0	1	0	2	0	2	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1097		4	max	-.056	1	0	2	0	1	0	1	0	1	0	2
1098			min	-.086	2	-.002	1	0	1	0	2	0	2	0	1
1099		5	max	-.057	1	-.001	2	0	1	0	1	0	1	0	1
1100			min	-.086	2	-.003	1	0	1	0	2	0	1	0	1
1101	M111	1	max	2.465	2	.003	1	0	1	0	2	0	1	0	1
1102			min	.819	1	.001	2	0	1	0	1	0	1	0	1
1103		2	max	2.466	2	.002	1	0	1	0	2	0	1	0	2
1104			min	.82	1	0	2	0	1	0	1	0	2	0	1
1105		3	max	2.466	2	0	1	0	1	0	2	0	1	0	2
1106			min	.822	1	0	1	0	1	0	1	0	2	0	1
1107		4	max	2.467	2	0	2	0	1	0	2	0	1	0	2
1108			min	.823	1	-.002	1	0	1	0	1	0	2	0	1
1109		5	max	2.467	2	-.001	2	0	1	0	2	0	1	0	1
1110			min	.825	1	-.003	1	0	1	0	1	0	1	0	1
1111	M112	1	max	-.84	1	.003	1	0	1	0	1	0	1	0	1
1112			min	-2.469	2	.001	2	0	1	0	2	0	1	0	1
1113		2	max	-.842	1	.002	1	0	1	0	1	0	1	0	2
1114			min	-2.469	2	0	2	0	1	0	2	0	2	0	1
1115		3	max	-.843	1	0	1	0	1	0	1	0	1	0	2
1116			min	-2.47	2	0	1	0	1	0	2	0	2	0	1
1117		4	max	-.845	1	0	2	0	1	0	1	0	1	0	2
1118			min	-2.47	2	-.002	1	0	1	0	2	0	2	0	1
1119		5	max	-.846	1	-.001	2	0	1	0	1	0	1	0	1
1120			min	-2.47	2	-.003	1	0	1	0	2	0	1	0	1
1121	M113	1	max	2.204	2	.003	1	0	1	0	1	0	1	0	1
1122			min	.748	1	.001	2	0	1	0	2	0	1	0	1
1123		2	max	2.204	2	.002	1	0	1	0	1	0	1	0	2
1124			min	.746	1	0	2	0	1	0	2	0	2	0	1
1125		3	max	2.203	2	0	1	0	1	0	1	0	1	0	2
1126			min	.745	1	0	1	0	1	0	2	0	2	0	1
1127		4	max	2.203	2	0	2	0	1	0	1	0	1	0	2
1128			min	.744	1	-.002	1	0	1	0	2	0	2	0	1
1129		5	max	2.202	2	-.001	2	0	1	0	1	0	1	0	1
1130			min	.742	1	-.003	1	0	1	0	2	0	1	0	1
1131	M114	1	max	-.718	1	.003	1	0	1	0	2	0	1	0	1
1132			min	-2.191	2	.001	2	0	1	0	1	0	1	0	1
1133		2	max	-.716	1	.002	1	0	1	0	2	0	1	0	2
1134			min	-2.19	2	0	2	0	1	0	1	0	2	0	1
1135		3	max	-.715	1	0	1	0	1	0	2	0	1	0	2
1136			min	-2.19	2	0	1	0	1	0	1	0	2	0	1
1137		4	max	-.714	1	0	2	0	1	0	2	0	1	0	2
1138			min	-2.189	2	-.002	1	0	1	0	1	0	2	0	1
1139		5	max	-.712	1	-.001	2	0	1	0	2	0	1	0	1
1140			min	-2.189	2	-.003	1	0	1	0	1	0	1	0	1
1141	M115	1	max	2.466	2	.003	1	0	1	0	2	0	1	0	1
1142			min	.825	1	.001	2	0	1	0	1	0	1	0	1
1143		2	max	2.467	2	.002	1	0	1	0	2	0	1	0	2
1144			min	.826	1	0	2	0	1	0	1	0	2	0	1
1145		3	max	2.467	2	0	1	0	1	0	2	0	1	0	2
1146			min	.827	1	0	1	0	1	0	1	0	2	0	1
1147		4	max	2.468	2	0	2	0	1	0	2	0	1	0	2
1148			min	.829	1	-.002	1	0	1	0	1	0	2	0	1
1149		5	max	2.468	2	-.001	2	0	1	0	2	0	1	0	1
1150			min	.83	1	-.003	1	0	1	0	1	0	1	0	1
1151	M116	1	max	-.847	1	.003	1	0	1	0	1	0	1	0	1
1152			min	-2.473	2	.001	2	0	1	0	2	0	1	0	1
1153		2	max	-.848	1	.002	1	0	1	0	1	0	1	0	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1154			min	-2.473	2	0	2	0	1	0	2	0	2	0	1
1155		3	max	-.85	1	0	1	0	1	0	1	0	1	0	2
1156			min	-2.474	2	0	1	0	1	0	2	0	2	0	1
1157		4	max	-.851	1	0	2	0	1	0	1	0	1	0	2
1158			min	-2.474	2	-.002	1	0	1	0	2	0	2	0	1
1159		5	max	-.853	1	-.001	2	0	1	0	1	0	1	0	1
1160			min	-2.474	2	-.003	1	0	1	0	2	0	1	0	1
1161	M117	1	max	2.202	2	.003	1	0	1	0	1	0	1	0	1
1162			min	.747	1	.001	2	0	1	0	2	0	1	0	1
1163		2	max	2.201	2	.002	1	0	1	0	1	0	1	0	2
1164			min	.746	1	0	2	0	1	0	2	0	2	0	1
1165		3	max	2.201	2	0	1	0	1	0	1	0	1	0	2
1166			min	.744	1	0	1	0	1	0	2	0	2	0	1
1167		4	max	2.2	2	0	2	0	1	0	1	0	1	0	2
1168			min	.743	1	-.002	1	0	1	0	2	0	2	0	1
1169		5	max	2.2	2	-.001	2	0	1	0	1	0	1	0	1
1170			min	.741	1	-.003	1	0	1	0	2	0	1	0	1
1171	M118	1	max	-.719	1	.003	1	0	1	0	2	0	1	0	1
1172			min	-2.193	2	.001	2	0	1	0	1	0	1	0	1
1173		2	max	-.717	1	.002	1	0	1	0	2	0	1	0	2
1174			min	-2.193	2	0	2	0	1	0	1	0	2	0	1
1175		3	max	-.716	1	0	1	0	1	0	2	0	1	0	2
1176			min	-2.192	2	0	1	0	1	0	1	0	2	0	1
1177		4	max	-.715	1	0	2	0	1	0	2	0	1	0	2
1178			min	-2.192	2	-.002	1	0	1	0	1	0	2	0	1
1179		5	max	-.713	1	-.001	2	0	1	0	2	0	1	0	1
1180			min	-2.191	2	-.003	1	0	1	0	1	0	1	0	1
1181	M119	1	max	-.06	1	-.396	2	-.058	1	-.043	1	0	2	.097	2
1182			min	-.12	2	-.515	1	-.114	2	-.085	2	0	1	.051	1
1183		2	max	-.06	1	-.396	2	-.058	1	-.043	1	-.024	1	.262	1
1184			min	-.12	2	-.515	1	-.114	2	-.085	2	-.047	2	.259	2
1185		3	max	-.06	1	-.396	2	-.058	1	-.043	1	-.048	1	.472	1
1186			min	-.12	2	-.515	1	-.114	2	-.085	2	-.093	2	.421	2
1187		4	max	-.06	1	-.396	2	-.058	1	-.043	1	-.071	1	.683	1
1188			min	-.12	2	-.515	1	-.114	2	-.085	2	-.14	2	.583	2
1189		5	max	-.06	1	-.396	2	-.058	1	-.043	1	-.095	1	.893	1
1190			min	-.12	2	-.515	1	-.114	2	-.085	2	-.187	2	.745	2
1191	M120	1	max	-.055	1	-.35	2	.121	2	.095	2	0	1	.085	2
1192			min	-.113	2	-.49	1	.062	1	.049	1	0	2	.043	1
1193		2	max	-.055	1	-.35	2	.121	2	.095	2	.049	2	.243	1
1194			min	-.113	2	-.49	1	.062	1	.049	1	.025	1	.228	2
1195		3	max	-.055	1	-.35	2	.121	2	.095	2	.099	2	.444	1
1196			min	-.113	2	-.49	1	.062	1	.049	1	.051	1	.371	2
1197		4	max	-.055	1	-.35	2	.121	2	.095	2	.148	2	.644	1
1198			min	-.113	2	-.49	1	.062	1	.049	1	.076	1	.514	2
1199		5	max	-.055	1	-.35	2	.121	2	.095	2	.198	2	.844	1
1200			min	-.113	2	-.49	1	.062	1	.049	1	.101	1	.657	2
1201	M121	1	max	.124	2	.039	2	-.067	1	-.046	1	0	2	-.038	1
1202			min	.066	1	-.292	1	-.133	2	-.091	2	0	1	-.075	2
1203		2	max	.124	2	.039	2	-.067	1	-.046	1	-.027	1	.081	1
1204			min	.066	1	-.292	1	-.133	2	-.091	2	-.054	2	-.091	2
1205		3	max	.124	2	.039	2	-.067	1	-.046	1	-.055	1	.201	1
1206			min	.066	1	-.292	1	-.133	2	-.091	2	-.108	2	-.107	2
1207		4	max	.124	2	.039	2	-.067	1	-.046	1	-.082	1	.32	1
1208			min	.066	1	-.292	1	-.133	2	-.091	2	-.163	2	-.124	2
1209		5	max	.124	2	.039	2	-.067	1	-.046	1	-.11	1	.44	1
1210			min	.066	1	-.292	1	-.133	2	-.091	2	-.217	2	-.14	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1211	M122	1	max	.132	2	.086	2	.124	2	.075	2	0	1	-.045	1
1212			min	.069	1	-.269	1	.063	1	.038	1	0	2	-.091	2
1213		2	max	.132	2	.086	2	.124	2	.075	2	.051	2	.065	1
1214			min	.069	1	-.269	1	.063	1	.038	1	.026	1	-.127	2
1215		3	max	.132	2	.086	2	.124	2	.075	2	.102	2	.176	1
1216			min	.069	1	-.269	1	.063	1	.038	1	.052	1	-.162	2
1217		4	max	.132	2	.086	2	.124	2	.075	2	.153	2	.286	1
1218			min	.069	1	-.269	1	.063	1	.038	1	.078	1	-.197	2
1219		5	max	.132	2	.086	2	.124	2	.075	2	.203	2	.396	1
1220			min	.069	1	-.269	1	.063	1	.038	1	.104	1	-.232	2
1221	M123	1	max	-.389	1	-6.335	1	-.289	1	-.12	1	0	1	.802	2
1222			min	-1.072	2	-13.782	2	-.835	2	-.395	2	0	2	.267	1
1223		2	max	-.389	1	-6.335	1	-.289	1	-.12	1	-.118	1	6.436	2
1224			min	-1.072	2	-13.782	2	-.835	2	-.395	2	-.341	2	2.856	1
1225		3	max	-.389	1	-6.335	1	-.289	1	-.12	1	-.236	1	12.07	2
1226			min	-1.072	2	-13.782	2	-.835	2	-.395	2	-.683	2	5.446	1
1227		4	max	-.389	1	-6.335	1	-.289	1	-.12	1	-.355	1	17.704	2
1228			min	-1.072	2	-13.782	2	-.835	2	-.395	2	-1.024	2	8.036	1
1229		5	max	-.389	1	-6.335	1	-.289	1	-.12	1	-.473	1	23.338	2
1230			min	-1.072	2	-13.782	2	-.835	2	-.395	2	-1.366	2	10.625	1
1231	M124	1	max	-.372	1	-6.412	1	.762	2	.634	2	0	2	.481	2
1232			min	-1.014	2	-14.063	2	.264	1	.199	1	0	1	.162	1
1233		2	max	-.372	1	-6.412	1	.762	2	.634	2	.311	2	6.23	2
1234			min	-1.014	2	-14.063	2	.264	1	.199	1	.108	1	2.783	1
1235		3	max	-.372	1	-6.412	1	.762	2	.634	2	.623	2	11.979	2
1236			min	-1.014	2	-14.063	2	.264	1	.199	1	.216	1	5.404	1
1237		4	max	-.372	1	-6.412	1	.762	2	.634	2	.934	2	17.728	2
1238			min	-1.014	2	-14.063	2	.264	1	.199	1	.324	1	8.025	1
1239		5	max	-.372	1	-6.412	1	.762	2	.634	2	1.246	2	23.477	2
1240			min	-1.014	2	-14.063	2	.264	1	.199	1	.432	1	10.646	1
1241	M125	1	max	1.08	2	12.027	2	.868	2	.399	2	0	2	-.245	1
1242			min	.375	1	1.844	1	.334	1	.131	1	0	1	-.792	2
1243		2	max	1.08	2	12.027	2	.868	2	.399	2	.355	2	-.999	1
1244			min	.375	1	1.844	1	.334	1	.131	1	.137	1	-5.708	2
1245		3	max	1.08	2	12.027	2	.868	2	.399	2	.71	2	-1.752	1
1246			min	.375	1	1.844	1	.334	1	.131	1	.273	1	-10.625	2
1247		4	max	1.08	2	12.027	2	.868	2	.399	2	1.064	2	-2.506	1
1248			min	.375	1	1.844	1	.334	1	.131	1	.41	1	-15.542	2
1249		5	max	1.08	2	12.027	2	.868	2	.399	2	1.419	2	-3.26	1
1250			min	.375	1	1.844	1	.334	1	.131	1	.546	1	-20.458	2
1251	M126	1	max	1.022	2	12.306	2	-.309	1	-.211	1	0	1	-.138	1
1252			min	.358	1	1.93	1	-.793	2	-.638	2	0	2	-.47	2
1253		2	max	1.022	2	12.306	2	-.309	1	-.211	1	-.126	1	-.927	1
1254			min	.358	1	1.93	1	-.793	2	-.638	2	-.324	2	-5.501	2
1255		3	max	1.022	2	12.306	2	-.309	1	-.211	1	-.253	1	-1.716	1
1256			min	.358	1	1.93	1	-.793	2	-.638	2	-.649	2	-10.531	2
1257		4	max	1.022	2	12.306	2	-.309	1	-.211	1	-.379	1	-2.505	1
1258			min	.358	1	1.93	1	-.793	2	-.638	2	-.973	2	-15.561	2
1259		5	max	1.022	2	12.306	2	-.309	1	-.211	1	-.506	1	-3.293	1
1260			min	.358	1	1.93	1	-.793	2	-.638	2	-1.297	2	-20.592	2
1261	M127	1	max	.498	2	.958	1	.494	2	0	2	0	1	0	1
1262			min	.142	1	.458	2	.144	1	0	1	0	2	0	1
1263		2	max	.498	2	.958	1	.494	2	0	2	.202	2	-.187	2
1264			min	.142	1	.458	2	.144	1	0	1	.059	1	-.392	1
1265		3	max	.498	2	.958	1	.494	2	0	2	.404	2	-.374	2
1266			min	.142	1	.458	2	.144	1	0	1	.117	1	-.783	1
1267		4	max	.498	2	.958	1	.494	2	0	2	.606	2	-.562	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	lc	y Shear[k]	lc	z Shear[k]	lc	Torque[k-ft]	lc	y-y Mome...	lc	z-z Momen...	lc
1268			min	.142	1	.458	2	.144	1	0	1	.176	1	-1.175	1
1269		5	max	.498	2	.958	1	.494	2	0	2	.807	2	-.749	2
1270			min	.142	1	.458	2	.144	1	0	1	.235	1	-1.567	1
1271	M128	1	max	.483	2	.957	1	-.139	1	0	1	0	2	0	1
1272			min	.137	1	.458	2	-.478	2	0	2	0	1	0	2
1273		2	max	.483	2	.957	1	-.139	1	0	1	-.057	1	-.187	2
1274			min	.137	1	.458	2	-.478	2	0	2	-.195	2	-.391	1
1275		3	max	.483	2	.957	1	-.139	1	0	1	-.113	1	-.374	2
1276			min	.137	1	.458	2	-.478	2	0	2	-.391	2	-.782	1
1277		4	max	.483	2	.957	1	-.139	1	0	1	-.17	1	-.561	2
1278			min	.137	1	.458	2	-.478	2	0	2	-.586	2	-1.173	1
1279		5	max	.483	2	.957	1	-.139	1	0	1	-.227	1	-.748	2
1280			min	.137	1	.458	2	-.478	2	0	2	-.782	2	-1.564	1
1281	M129	1	max	-.148	1	.958	1	-.143	1	0	1	0	2	0	2
1282			min	-.501	2	.458	2	-.493	2	0	2	0	1	0	1
1283		2	max	-.148	1	.958	1	-.143	1	0	1	-.059	1	-.187	2
1284			min	-.501	2	.458	2	-.493	2	0	2	-.201	2	-.392	1
1285		3	max	-.148	1	.958	1	-.143	1	0	1	-.117	1	-.374	2
1286			min	-.501	2	.458	2	-.493	2	0	2	-.403	2	-.783	1
1287		4	max	-.148	1	.958	1	-.143	1	0	1	-.176	1	-.562	2
1288			min	-.501	2	.458	2	-.493	2	0	2	-.604	2	-1.175	1
1289		5	max	-.148	1	.958	1	-.143	1	0	1	-.234	1	-.749	2
1290			min	-.501	2	.458	2	-.493	2	0	2	-.805	2	-1.567	1
1291	M130	1	max	-.143	1	.957	1	.477	2	0	1	0	1	0	2
1292			min	-.485	2	.458	2	.138	1	0	2	0	2	0	1
1293		2	max	-.143	1	.957	1	.477	2	0	1	.195	2	-.187	2
1294			min	-.485	2	.458	2	.138	1	0	2	.057	1	-.391	1
1295		3	max	-.143	1	.957	1	.477	2	0	1	.39	2	-.374	2
1296			min	-.485	2	.458	2	.138	1	0	2	.113	1	-.782	1
1297		4	max	-.143	1	.957	1	.477	2	0	1	.585	2	-.561	2
1298			min	-.485	2	.458	2	.138	1	0	2	.17	1	-1.173	1
1299		5	max	-.143	1	.957	1	.477	2	0	1	.779	2	-.748	2
1300			min	-.485	2	.458	2	.138	1	0	2	.226	1	-1.564	1

Envelope Member Section Stresses

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1	M1	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
2			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
3		2	max	.075	1	0	1	.06	2	.076	2	-.035	1	-.132	1	.275	2
4			min	.068	2	-.001	2	.031	1	.035	1	-.076	2	-.233	2	.156	1
5		3	max	-.011	2	.004	2	.012	2	.117	2	-.076	1	-.119	1	.23	2
6			min	-.073	1	.002	1	.009	1	.076	1	-.117	2	-.195	2	.141	1
7		4	max	-.815	1	-.044	1	1.247	2	2.826	2	-.93	1	-1.241	1	4.547	2
8			min	-4.721	2	-.156	2	.417	1	.93	1	-2.826	2	-3.846	2	1.468	1
9		5	max	-.271	1	-.007	1	.031	2	0	1	0	1	0	1	0	1
10			min	-2.945	2	-.025	2	.016	1	0	1	0	1	0	1	0	1
11	M2	1	max	-.271	1	-.007	1	.031	2	0	1	0	1	0	1	0	1
12			min	-2.945	2	-.025	2	.016	1	0	1	0	1	0	1	0	1
13		2	max	-.011	1	.03	2	.02	2	-.04	1	.083	2	-.052	1	.379	2
14			min	-1.872	2	.008	1	.008	1	-.083	2	.04	1	-.321	2	.062	1
15		3	max	.205	1	-.003	1	.09	2	.307	2	-.098	1	-.043	1	.065	2
16			min	-1.018	2	-.011	2	.033	1	.098	1	-.307	2	-.055	2	.051	1
17		4	max	.398	1	-.001	1	-.034	1	.002	1	.011	2	.093	2	-.001	1
18			min	-.179	2	-.003	2	-.14	2	-.011	2	-.002	1	0	1	-.11	2
19		5	max	.475	1	.006	2	.746	2	0	1	0	1	0	1	0	1
20			min	.228	2	.004	1	.218	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
21	M3	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
22			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
23		2	max	.017	1	0	1	.008	2	.017	2	.012	1	-.047	1	.1	2
24			min	-.047	2	-.001	2	.003	1	-.012	1	-.017	2	-.085	2	.055	1
25		3	max	-.03	2	.003	2	.039	2	.142	2	-.064	1	-.112	1	.311	2
26			min	-.084	1	0	1	.017	1	.064	1	-.142	2	-.263	2	.132	1
27		4	max	5.321	2	-.003	1	1.222	2	3.03	2	-1.049	1	-1.295	1	4.468	2
28			min	2.361	1	-.033	2	.413	1	1.049	1	-3.03	2	-3.78	2	1.531	1
29		5	max	3.543	2	.029	2	-.013	1	0	1	0	1	0	1	0	1
30			min	1.728	1	.015	1	-.02	2	0	1	0	1	0	1	0	1
31	M4	1	max	3.543	2	.029	2	-.013	1	0	1	0	1	0	1	0	1
32			min	1.728	1	.015	1	-.02	2	0	1	0	1	0	1	0	1
33		2	max	2.405	2	-.013	1	.006	1	.358	2	-.187	1	.015	2	0	1
34			min	1.286	1	-.023	2	-.001	2	.187	1	-.358	2	0	1	-.018	2
35		3	max	1.484	2	.011	2	.04	2	.097	2	.009	1	-.069	1	.286	2
36			min	.957	1	.004	1	.011	1	-.009	1	-.097	2	-.242	2	.082	1
37		4	max	.643	2	-.002	1	-.06	1	-.025	2	.026	1	.417	2	-.145	1
38			min	.642	1	-.009	2	-.205	2	-.026	1	.025	2	.123	1	-.493	2
39		5	max	.475	1	.001	1	.77	2	0	1	0	1	0	1	0	1
40			min	.228	2	-.004	2	.222	1	0	1	0	1	0	1	0	1
41	M5	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
42			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
43		2	max	.072	1	0	2	.059	2	.067	2	-.057	1	-.119	1	.278	2
44			min	.06	2	-.001	1	.032	1	.057	1	-.067	2	-.236	2	.141	1
45		3	max	-.001	2	.002	2	.013	2	.107	2	-.063	1	-.124	1	.236	2
46			min	-.069	1	.002	1	.01	1	.063	1	-.107	2	-.2	2	.147	1
47		4	max	-.8	1	-.025	1	1.23	2	2.915	2	-.92	1	-1.178	1	4.26	2
48			min	-4.67	2	-.041	2	.412	1	.92	1	-2.915	2	-3.604	2	1.393	1
49		5	max	-.276	1	.025	2	.014	1	0	1	0	1	0	1	0	1
50			min	-2.955	2	.001	1	.013	2	0	1	0	1	0	1	0	1
51	M6	1	max	-.276	1	.025	2	.014	1	0	1	0	1	0	1	0	1
52			min	-2.955	2	.001	1	.013	2	0	1	0	1	0	1	0	1
53		2	max	-.014	1	0	1	.035	2	.312	2	-.013	1	.01	1	-.009	2
54			min	-1.875	2	-.019	2	.009	1	.013	1	-.312	2	.008	2	-.011	1
55		3	max	.216	1	.011	2	.088	2	.141	2	-.08	1	-.096	1	.343	2
56			min	-.989	2	.002	1	.033	1	.08	1	-.141	2	-.29	2	.113	1
57		4	max	.397	1	-.003	1	-.035	1	.075	2	-.047	1	.257	2	-.07	1
58			min	-.186	2	-.01	2	-.146	2	.047	1	-.075	2	.059	1	-.304	2
59		5	max	.475	1	-.004	1	.771	2	0	1	0	1	0	1	0	1
60			min	.228	2	-.006	2	.226	1	0	1	0	1	0	1	0	1
61	M7	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
62			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
63		2	max	.013	1	-.002	1	.009	2	.035	2	-.022	1	-.029	1	.091	2
64			min	-.054	2	-.004	2	.005	1	.022	1	-.035	2	-.077	2	.034	1
65		3	max	-.021	2	.005	2	.038	2	.15	2	-.06	1	-.112	1	.308	2
66			min	-.078	1	.003	1	.016	1	.06	1	-.15	2	-.261	2	.133	1
67		4	max	5.373	2	-.061	1	1.238	2	2.904	2	-.971	1	-1.39	1	4.771	2
68			min	2.379	1	-.164	2	.418	1	.971	1	-2.904	2	-4.036	2	1.644	1
69		5	max	3.533	2	-.01	1	.002	2	0	1	0	1	0	1	0	1
70			min	1.726	1	-.028	2	-.002	1	0	1	0	1	0	1	0	1
71	M8	1	max	3.533	2	-.01	1	.002	2	0	1	0	1	0	1	0	1
72			min	1.726	1	-.028	2	-.002	1	0	1	0	1	0	1	0	1
73		2	max	2.402	2	.033	2	-.003	1	-.028	1	.102	2	-.155	1	.414	2
74			min	1.287	1	.012	1	-.019	2	-.102	2	.028	1	-.35	2	.183	1
75		3	max	1.513	2	-.004	1	.042	2	.292	2	-.083	1	.03	1	-.014	2
76			min	.963	1	-.012	2	.012	1	.083	1	-.292	2	.012	2	-.035	1
77		4	max	.638	1	0	1	-.057	1	-.028	1	.091	2	.26	2	-.095	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
78			min	.635	2	-.003	2	-.198	2	-.091	2	.028	1	.081	1	-.307	2
79		5	max	.475	1	.003	2	.745	2	0	1	0	1	0	1	0	1
80			min	.228	2	-.001	1	.214	1	0	1	0	1	0	1	0	1
81	M9	1	max	-.012	2	.028	1	0	1	0	1	0	1	0	1	0	1
82			min	-.017	1	.009	2	0	1	0	1	0	1	0	1	0	1
83		2	max	-.012	2	.014	1	0	1	.138	1	-.043	2	.267	1	-.106	2
84			min	-.017	1	.004	2	0	1	.043	2	-.138	1	.084	2	-.336	1
85		3	max	-.012	2	0	1	0	1	.184	1	-.058	2	.356	1	-.141	2
86			min	-.017	1	0	1	0	1	.058	2	-.184	1	.112	2	-.448	1
87		4	max	-.012	2	-.004	2	0	1	.138	1	-.043	2	.267	1	-.106	2
88			min	-.017	1	-.014	1	0	1	.043	2	-.138	1	.084	2	-.336	1
89		5	max	-.012	2	-.009	2	0	1	0	1	0	1	0	1	0	1
90			min	-.017	1	-.028	1	0	1	0	1	0	1	0	1	0	1
91	M10	1	max	.052	2	.028	1	0	1	0	1	0	1	0	1	0	1
92			min	.014	1	.009	2	0	1	0	1	0	1	0	1	0	1
93		2	max	.052	2	.014	1	0	1	.138	1	-.043	2	.267	1	-.106	2
94			min	.014	1	.004	2	0	1	.043	2	-.138	1	.084	2	-.336	1
95		3	max	.052	2	0	1	0	1	.184	1	-.058	2	.356	1	-.141	2
96			min	.014	1	0	1	0	1	.058	2	-.184	1	.112	2	-.448	1
97		4	max	.052	2	-.004	2	0	1	.138	1	-.043	2	.267	1	-.106	2
98			min	.014	1	-.014	1	0	1	.043	2	-.138	1	.084	2	-.336	1
99		5	max	.052	2	-.009	2	0	1	0	1	0	1	0	1	0	1
100			min	.014	1	-.028	1	0	1	0	1	0	1	0	1	0	1
101	M11	1	max	.005	2	.028	1	-.012	1	0	1	0	1	0	1	0	1
102			min	-.009	1	.009	2	-.03	2	0	1	0	1	0	1	0	1
103		2	max	.005	2	.014	1	-.006	1	.198	1	-.189	2	.15	1	.248	2
104			min	-.009	1	.004	2	-.015	2	.189	2	-.198	1	-.198	2	-.188	1
105		3	max	.005	2	0	1	0	1	.264	1	-.252	2	.2	1	.331	2
106			min	-.009	1	0	1	0	1	.252	2	-.264	1	-.263	2	-.251	1
107		4	max	.005	2	-.004	2	.015	2	.198	1	-.189	2	.15	1	.248	2
108			min	-.009	1	-.014	1	.006	1	.189	2	-.198	1	-.198	2	-.188	1
109		5	max	.005	2	-.009	2	.03	2	0	1	0	1	0	1	0	1
110			min	-.009	1	-.028	1	.012	1	0	1	0	1	0	1	0	1
111	M12	1	max	.049	2	.028	1	0	1	0	1	0	1	0	1	0	1
112			min	.012	1	.009	2	0	1	0	1	0	1	0	1	0	1
113		2	max	.049	2	.014	1	0	1	.138	1	-.043	2	.267	1	-.106	2
114			min	.012	1	.004	2	0	1	.043	2	-.138	1	.084	2	-.336	1
115		3	max	.049	2	0	1	0	1	.184	1	-.058	2	.356	1	-.141	2
116			min	.012	1	0	1	0	1	.058	2	-.184	1	.112	2	-.448	1
117		4	max	.049	2	-.004	2	0	1	.138	1	-.043	2	.267	1	-.106	2
118			min	.012	1	-.014	1	0	1	.043	2	-.138	1	.084	2	-.336	1
119		5	max	.049	2	-.009	2	0	1	0	1	0	1	0	1	0	1
120			min	.012	1	-.028	1	0	1	0	1	0	1	0	1	0	1
121	M13	1	max	.043	1	.028	1	0	1	0	1	0	1	0	1	0	1
122			min	.035	2	.009	2	0	1	0	1	0	1	0	1	0	1
123		2	max	.034	1	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
124			min	.032	2	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
125		3	max	.029	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
126			min	.025	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
127		4	max	.026	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
128			min	.017	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
129		5	max	.024	2	-.009	2	0	1	0	1	0	1	0	1	0	1
130			min	.008	1	-.028	1	0	1	0	1	0	1	0	1	0	1
131	M14	1	max	.031	1	.028	1	0	1	0	1	0	1	0	1	0	1
132			min	.009	2	.009	2	0	1	0	1	0	1	0	1	0	1
133		2	max	.022	1	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
134			min	.006	2	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
135		3	max	.013	1	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
136			min	.004	2	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
137		4	max	.004	1	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
138			min	0	2	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
139		5	max	-.002	2	-.009	2	0	1	0	1	0	1	0	1	0	1
140			min	-.004	1	-.028	1	0	1	0	1	0	1	0	1	0	1
141	M15	1	max	.5	2	.028	1	0	1	0	1	0	1	0	1	0	1
142			min	.288	1	.009	2	0	1	0	1	0	1	0	1	0	1
143		2	max	.497	2	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
144			min	.279	1	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
145		3	max	.494	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
146			min	.27	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
147		4	max	.492	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
148			min	.261	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
149		5	max	.489	2	-.009	2	0	1	0	1	0	1	0	1	0	1
150			min	.252	1	-.028	1	0	1	0	1	0	1	0	1	0	1
151	M16	1	max	-.089	1	.028	1	0	1	0	1	0	1	0	1	0	1
152			min	-.234	2	.009	2	0	1	0	1	0	1	0	1	0	1
153		2	max	-.098	1	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
154			min	-.237	2	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
155		3	max	-.106	1	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
156			min	-.239	2	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
157		4	max	-.115	1	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
158			min	-.242	2	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
159		5	max	-.124	1	-.009	2	0	1	0	1	0	1	0	1	0	1
160			min	-.245	2	-.028	1	0	1	0	1	0	1	0	1	0	1
161	M17	1	max	.02	1	.028	1	-.021	1	0	1	0	1	0	1	0	1
162			min	-.01	2	.009	2	-.051	2	0	1	0	1	0	1	0	1
163		2	max	.011	1	.014	1	-.011	1	.507	2	-.418	1	.112	1	.871	2
164			min	-.013	2	.004	2	-.026	2	.418	1	-.507	2	-.693	2	-.14	1
165		3	max	.002	1	0	1	0	1	.676	2	-.557	1	.149	1	1.161	2
166			min	-.016	2	0	1	0	1	.557	1	-.676	2	-.924	2	-.187	1
167		4	max	-.006	1	-.004	2	.026	2	.507	2	-.418	1	.112	1	.871	2
168			min	-.019	2	-.014	1	.011	1	.418	1	-.507	2	-.693	2	-.14	1
169		5	max	-.015	1	-.009	2	.051	2	0	1	0	1	0	1	0	1
170			min	-.022	2	-.028	1	.021	1	0	1	0	1	0	1	0	1
171	M18	1	max	.03	1	.028	1	.051	2	0	1	0	1	0	1	0	1
172			min	.008	2	.009	2	.021	1	0	1	0	1	0	1	0	1
173		2	max	.021	1	.014	1	.026	2	.058	1	.357	2	.983	2	-1.018	1
174			min	.005	2	.004	2	.011	1	-.357	2	-.058	1	.81	1	-1.236	2
175		3	max	.012	1	0	1	0	1	.077	1	.476	2	1.311	2	-1.357	1
176			min	.002	2	0	1	0	1	-.476	2	-.077	1	1.08	1	-1.648	2
177		4	max	.004	1	-.004	2	-.011	1	.058	1	.357	2	.983	2	-1.018	1
178			min	0	2	-.014	1	-.026	2	-.357	2	-.058	1	.81	1	-1.236	2
179		5	max	-.004	2	-.009	2	-.021	1	0	1	0	1	0	1	0	1
180			min	-.005	1	-.028	1	-.051	2	0	1	0	1	0	1	0	1
181	M19	1	max	-.083	1	.028	1	0	1	0	1	0	1	0	1	0	1
182			min	-.229	2	.009	2	0	1	0	1	0	1	0	1	0	1
183		2	max	-.092	1	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
184			min	-.232	2	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
185		3	max	-.101	1	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
186			min	-.234	2	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
187		4	max	-.109	1	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
188			min	-.237	2	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
189		5	max	-.118	1	-.009	2	0	1	0	1	0	1	0	1	0	1
190			min	-.24	2	-.028	1	0	1	0	1	0	1	0	1	0	1
191	M20	1	max	.506	2	.028	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
192			min	.287	1	.009	2	0	1	0	1	0	1	0	1	0	1
193		2	max	.503	2	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
194			min	.279	1	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
195		3	max	.5	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
196			min	.27	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
197		4	max	.497	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
198			min	.261	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
199		5	max	.495	2	-.009	2	0	1	0	1	0	1	0	1	0	1
200			min	.252	1	-.028	1	0	1	0	1	0	1	0	1	0	1
201	M21	1	max	.014	1	.028	1	0	1	0	1	0	1	0	1	0	1
202			min	.003	2	.009	2	0	1	0	1	0	1	0	1	0	1
203		2	max	.005	1	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
204			min	0	2	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
205		3	max	-.002	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
206			min	-.004	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
207		4	max	-.005	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
208			min	-.013	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
209		5	max	-.008	2	-.009	2	0	1	0	1	0	1	0	1	0	1
210			min	-.021	1	-.028	1	0	1	0	1	0	1	0	1	0	1
211	M22	1	max	-.027	2	.028	1	0	1	0	1	0	1	0	1	0	1
212			min	-.035	1	.009	2	0	1	0	1	0	1	0	1	0	1
213		2	max	-.024	2	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
214			min	-.026	1	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
215		3	max	-.018	1	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
216			min	-.021	2	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
217		4	max	-.009	1	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
218			min	-.018	2	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
219		5	max	0	1	-.009	2	0	1	0	1	0	1	0	1	0	1
220			min	-.016	2	-.028	1	0	1	0	1	0	1	0	1	0	1
221	M23	1	max	.173	2	.028	1	0	1	0	1	0	1	0	1	0	1
222			min	.087	1	.009	2	0	1	0	1	0	1	0	1	0	1
223		2	max	.171	2	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
224			min	.078	1	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
225		3	max	.168	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
226			min	.069	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
227		4	max	.165	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
228			min	.06	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
229		5	max	.162	2	-.009	2	0	1	0	1	0	1	0	1	0	1
230			min	.052	1	-.028	1	0	1	0	1	0	1	0	1	0	1
231	M24	1	max	.053	2	.028	1	0	1	0	1	0	1	0	1	0	1
232			min	.03	1	.009	2	0	1	0	1	0	1	0	1	0	1
233		2	max	.05	2	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
234			min	.021	1	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
235		3	max	.047	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
236			min	.012	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
237		4	max	.045	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
238			min	.003	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
239		5	max	.042	2	-.009	2	0	1	0	1	0	1	0	1	0	1
240			min	-.006	1	-.028	1	0	1	0	1	0	1	0	1	0	1
241	M25	1	max	.008	1	.028	1	-.021	1	0	1	0	1	0	1	0	1
242			min	-.008	2	.009	2	-.051	2	0	1	0	1	0	1	0	1
243		2	max	-.001	1	.014	1	-.011	1	.507	2	-.418	1	.112	1	.871	2
244			min	-.011	2	.004	2	-.026	2	.418	1	-.507	2	-.693	2	-.14	1
245		3	max	-.01	1	0	1	0	1	.676	2	-.557	1	.149	1	1.161	2
246			min	-.014	2	0	1	0	1	.557	1	-.676	2	-.924	2	-.187	1
247		4	max	-.016	2	-.004	2	.026	2	.507	2	-.418	1	.112	1	.871	2
248			min	-.019	1	-.014	1	.011	1	.418	1	-.507	2	-.693	2	-.14	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
249		5	max	-.019	2	-.009	2	.051	2	0	1	0	1	0	1	0	1
250			min	-.027	1	-.028	1	.021	1	0	1	0	1	0	1	0	1
251	M26	1	max	.028	2	.028	1	.051	2	0	1	0	1	0	1	0	1
252			min	.022	1	.009	2	.021	1	0	1	0	1	0	1	0	1
253		2	max	.025	2	.014	1	.026	2	.058	1	.357	2	.983	2	-1.018	1
254			min	.013	1	.004	2	.011	1	-.357	2	-.058	1	.81	1	-1.236	2
255		3	max	.022	2	0	1	0	1	.077	1	.476	2	1.311	2	-1.357	1
256			min	.004	1	0	1	0	1	-.476	2	-.077	1	1.08	1	-1.648	2
257		4	max	.019	2	-.004	2	-.011	1	.058	1	.357	2	.983	2	-1.018	1
258			min	-.004	1	-.014	1	-.026	2	-.357	2	-.058	1	.81	1	-1.236	2
259		5	max	.017	2	-.009	2	-.021	1	0	1	0	1	0	1	0	1
260			min	-.013	1	-.028	1	-.051	2	0	1	0	1	0	1	0	1
261	M27	1	max	.051	2	.028	1	0	1	0	1	0	1	0	1	0	1
262			min	.025	1	.009	2	0	1	0	1	0	1	0	1	0	1
263		2	max	.048	2	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
264			min	.016	1	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
265		3	max	.045	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
266			min	.007	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
267		4	max	.043	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
268			min	-.002	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
269		5	max	.04	2	-.009	2	0	1	0	1	0	1	0	1	0	1
270			min	-.01	1	-.028	1	0	1	0	1	0	1	0	1	0	1
271	M28	1	max	.175	2	.028	1	0	1	0	1	0	1	0	1	0	1
272			min	.091	1	.009	2	0	1	0	1	0	1	0	1	0	1
273		2	max	.172	2	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
274			min	.082	1	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
275		3	max	.169	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
276			min	.074	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
277		4	max	.166	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
278			min	.065	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
279		5	max	.164	2	-.009	2	0	1	0	1	0	1	0	1	0	1
280			min	.056	1	-.028	1	0	1	0	1	0	1	0	1	0	1
281	M29	1	max	.034	2	.028	1	.051	2	0	1	0	1	0	1	0	1
282			min	.033	1	.009	2	.021	1	0	1	0	1	0	1	0	1
283		2	max	.031	2	.014	1	.026	2	.058	1	.357	2	.983	2	-1.018	1
284			min	.024	1	.004	2	.011	1	-.357	2	-.058	1	.81	1	-1.236	2
285		3	max	.028	2	0	1	0	1	.077	1	.476	2	1.311	2	-1.357	1
286			min	.015	1	0	1	0	1	-.476	2	-.077	1	1.08	1	-1.648	2
287		4	max	.026	2	-.004	2	-.011	1	.058	1	.357	2	.983	2	-1.018	1
288			min	.006	1	-.014	1	-.026	2	-.357	2	-.058	1	.81	1	-1.236	2
289		5	max	.023	2	-.009	2	-.021	1	0	1	0	1	0	1	0	1
290			min	-.002	1	-.028	1	-.051	2	0	1	0	1	0	1	0	1
291	M30	1	max	.004	1	.028	1	-.021	1	0	1	0	1	0	1	0	1
292			min	-.022	2	.009	2	-.051	2	0	1	0	1	0	1	0	1
293		2	max	-.005	1	.014	1	-.011	1	.507	2	-.418	1	.112	1	.871	2
294			min	-.024	2	.004	2	-.026	2	.418	1	-.507	2	-.693	2	-.14	1
295		3	max	-.013	1	0	1	0	1	.676	2	-.557	1	.149	1	1.161	2
296			min	-.027	2	0	1	0	1	.557	1	-.676	2	-.924	2	-.187	1
297		4	max	-.022	1	-.004	2	.026	2	.507	2	-.418	1	.112	1	.871	2
298			min	-.03	2	-.014	1	.011	1	.418	1	-.507	2	-.693	2	-.14	1
299		5	max	-.031	1	-.009	2	.051	2	0	1	0	1	0	1	0	1
300			min	-.033	2	-.028	1	.021	1	0	1	0	1	0	1	0	1
301	M31	1	max	.206	2	.012	1	0	2	0	1	0	1	0	1	0	1
302			min	.118	1	.006	2	0	1	0	1	0	1	0	1	0	1
303		2	max	.206	2	.002	2	0	2	.036	1	-.025	2	.069	1	-.062	2
304			min	.118	1	-.002	1	0	1	.025	2	-.036	1	.05	2	-.087	1
305		3	max	-.002	1	.016	1	0	2	.022	2	.02	1	.043	2	.05	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
306			min	-.031	2	.003	2	0	1	-.02	1	-.022	2	-.039	1	-.054	2
307		4	max	-.002	1	.002	1	0	2	.036	1	-.026	2	.069	1	-.062	2
308			min	-.031	2	-.002	2	0	1	.026	2	-.036	1	.049	2	-.087	1
309		5	max	-.002	1	-.006	2	0	2	0	1	0	1	0	1	0	1
310			min	-.031	2	-.012	1	0	1	0	1	0	1	0	1	0	1
311	M32	1	max	.202	2	.012	1	0	2	0	1	0	1	0	1	0	1
312			min	.116	1	.006	2	0	1	0	1	0	1	0	1	0	1
313		2	max	.202	2	.002	2	0	2	.036	1	-.025	2	.069	1	-.062	2
314			min	.116	1	-.002	1	0	1	.025	2	-.036	1	.049	2	-.087	1
315		3	max	-.004	1	.016	1	0	2	.022	2	.021	1	.042	2	.05	1
316			min	-.034	2	.003	2	0	1	-.021	1	-.022	2	-.04	1	-.053	2
317		4	max	-.004	1	.002	1	0	2	.036	1	-.025	2	.069	1	-.062	2
318			min	-.034	2	-.002	2	0	1	.025	2	-.036	1	.049	2	-.087	1
319		5	max	-.004	1	-.006	2	0	2	0	1	0	1	0	1	0	1
320			min	-.034	2	-.012	1	0	1	0	1	0	1	0	1	0	1
321	M33	1	max	.039	2	.028	1	0	1	0	1	0	1	0	1	0	1
322			min	.035	1	.009	2	0	1	0	1	0	1	0	1	0	1
323		2	max	.037	2	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
324			min	.026	1	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
325		3	max	.034	2	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
326			min	.018	1	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
327		4	max	.031	2	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
328			min	.009	1	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
329		5	max	.028	2	-.009	2	0	1	0	1	0	1	0	1	0	1
330			min	0	1	-.028	1	0	1	0	1	0	1	0	1	0	1
331	M34	1	max	.006	1	.028	1	0	1	0	1	0	1	0	1	0	1
332			min	-.018	2	.009	2	0	1	0	1	0	1	0	1	0	1
333		2	max	-.003	1	.014	1	0	1	.238	1	-.075	2	.461	1	-.183	2
334			min	-.021	2	.004	2	0	1	.075	2	-.238	1	.145	2	-.579	1
335		3	max	-.012	1	0	1	0	1	.317	1	-.1	2	.614	1	-.243	2
336			min	-.024	2	0	1	0	1	.1	2	-.317	1	.194	2	-.772	1
337		4	max	-.02	1	-.004	2	0	1	.238	1	-.075	2	.461	1	-.183	2
338			min	-.027	2	-.014	1	0	1	.075	2	-.238	1	.145	2	-.579	1
339		5	max	-.029	1	-.009	2	0	1	0	1	0	1	0	1	0	1
340			min	-.029	2	-.028	1	0	1	0	1	0	1	0	1	0	1
341	M35	1	max	-.036	1	.01	1	0	2	0	1	0	1	0	1	0	1
342			min	-.087	2	0	2	0	1	0	1	0	1	0	1	0	1
343		2	max	-.036	1	-.004	2	0	2	.018	1	.011	2	.035	1	.026	2
344			min	-.087	2	-.004	1	0	1	-.011	2	-.018	1	-.021	2	-.044	1
345		3	max	.248	2	.018	1	0	2	-.05	2	.056	1	-.098	2	.136	1
346			min	.135	1	.008	2	0	1	-.056	1	.05	2	-.108	1	.123	2
347		4	max	.248	2	.004	1	0	2	.018	1	.011	2	.035	1	.026	2
348			min	.135	1	.004	2	0	1	-.011	2	-.018	1	-.021	2	-.044	1
349		5	max	.248	2	0	2	0	2	0	1	0	1	0	1	0	1
350			min	.135	1	-.01	1	0	1	0	1	0	1	0	1	0	1
351	M36	1	max	-.033	1	.01	1	0	2	0	1	0	1	0	1	0	1
352			min	-.081	2	0	2	0	1	0	1	0	1	0	1	0	1
353		2	max	-.033	1	-.004	2	0	2	.018	1	.011	2	.035	1	.026	2
354			min	-.081	2	-.004	1	0	1	-.011	2	-.018	1	-.02	2	-.044	1
355		3	max	.253	2	.018	1	0	2	-.05	2	.055	1	-.097	2	.135	1
356			min	.139	1	.008	2	0	1	-.055	1	.05	2	-.108	1	.122	2
357		4	max	.253	2	.004	1	0	2	.018	1	.011	2	.035	1	.026	2
358			min	.139	1	.004	2	0	1	-.011	2	-.018	1	-.02	2	-.044	1
359		5	max	.253	2	0	2	0	2	0	1	0	1	0	1	0	1
360			min	.139	1	-.01	1	0	1	0	1	0	1	0	1	0	1
361	M37	1	max	.017	1	.028	1	0	1	0	1	0	1	0	1	0	1
362			min	.017	2	.009	2	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
363		2	max	.015	2	.014	1	0	1	.173	1	-.054	2	.335	1	-.133	2
364			min	.013	1	.004	2	0	1	.054	2	-.173	1	.106	2	-.421	1
365		3	max	.014	2	0	1	0	1	.23	1	-.073	2	.447	1	-.177	2
366			min	.008	1	0	1	0	1	.073	2	-.23	1	.141	2	-.561	1
367		4	max	.012	2	-.004	2	0	1	.173	1	-.054	2	.335	1	-.133	2
368			min	.003	1	-.014	1	0	1	.054	2	-.173	1	.106	2	-.421	1
369		5	max	.011	2	-.009	2	0	1	0	1	0	1	0	1	0	1
370			min	-.001	1	-.028	1	0	1	0	1	0	1	0	1	0	1
371	M38	1	max	0	1	.028	1	0	1	0	1	0	1	0	1	0	1
372			min	-.01	2	.009	2	0	1	0	1	0	1	0	1	0	1
373		2	max	-.004	1	.014	1	0	1	.173	1	-.054	2	.335	1	-.133	2
374			min	-.012	2	.004	2	0	1	.054	2	-.173	1	.106	2	-.421	1
375		3	max	-.009	1	0	1	0	1	.23	1	-.073	2	.447	1	-.177	2
376			min	-.013	2	0	1	0	1	.073	2	-.23	1	.141	2	-.561	1
377		4	max	-.013	1	-.004	2	0	1	.173	1	-.054	2	.335	1	-.133	2
378			min	-.015	2	-.014	1	0	1	.054	2	-.173	1	.106	2	-.421	1
379		5	max	-.016	2	-.009	2	0	1	0	1	0	1	0	1	0	1
380			min	-.018	1	-.028	1	0	1	0	1	0	1	0	1	0	1
381	M39	1	max	.346	2	.028	1	0	1	0	1	0	1	0	1	0	1
382			min	.167	1	.009	2	0	1	0	1	0	1	0	1	0	1
383		2	max	.345	2	.014	1	0	1	.173	1	-.054	2	.335	1	-.133	2
384			min	.163	1	.004	2	0	1	.054	2	-.173	1	.106	2	-.421	1
385		3	max	.343	2	0	1	0	1	.23	1	-.073	2	.447	1	-.177	2
386			min	.158	1	0	1	0	1	.073	2	-.23	1	.141	2	-.561	1
387		4	max	.342	2	-.004	2	0	1	.173	1	-.054	2	.335	1	-.133	2
388			min	.153	1	-.014	1	0	1	.054	2	-.173	1	.106	2	-.421	1
389		5	max	.34	2	-.009	2	0	1	0	1	0	1	0	1	0	1
390			min	.148	1	-.028	1	0	1	0	1	0	1	0	1	0	1
391	M40	1	max	-.14	1	.028	1	0	1	0	1	0	1	0	1	0	1
392			min	-.26	2	.009	2	0	1	0	1	0	1	0	1	0	1
393		2	max	-.145	1	.014	1	0	1	.173	1	-.054	2	.335	1	-.133	2
394			min	-.262	2	.004	2	0	1	.054	2	-.173	1	.106	2	-.421	1
395		3	max	-.149	1	0	1	0	1	.23	1	-.073	2	.447	1	-.177	2
396			min	-.263	2	0	1	0	1	.073	2	-.23	1	.141	2	-.561	1
397		4	max	-.154	1	-.004	2	0	1	.173	1	-.054	2	.335	1	-.133	2
398			min	-.265	2	-.014	1	0	1	.054	2	-.173	1	.106	2	-.421	1
399		5	max	-.159	1	-.009	2	0	1	0	1	0	1	0	1	0	1
400			min	-.266	2	-.028	1	0	1	0	1	0	1	0	1	0	1
401	M41	1	max	.016	2	.028	1	.037	2	0	1	0	1	0	1	0	1
402			min	.014	1	.009	2	.015	1	0	1	0	1	0	1	0	1
403		2	max	.015	2	.014	1	.019	2	.078	1	.174	2	.549	2	-.653	1
404			min	.01	1	.004	2	.008	1	-.174	2	-.078	1	.52	1	-.69	2
405		3	max	.013	2	0	1	0	1	.103	1	.232	2	.732	2	-.871	1
406			min	.005	1	0	1	0	1	-.232	2	-.103	1	.693	1	-.919	2
407		4	max	.012	2	-.004	2	-.008	1	.078	1	.174	2	.549	2	-.653	1
408			min	0	1	-.014	1	-.019	2	-.174	2	-.078	1	.52	1	-.69	2
409		5	max	.01	2	-.009	2	-.015	1	0	1	0	1	0	1	0	1
410			min	-.005	1	-.028	1	-.037	2	0	1	0	1	0	1	0	1
411	M42	1	max	0	1	.028	1	-.015	1	0	1	0	1	0	1	0	1
412			min	-.018	2	.009	2	-.037	2	0	1	0	1	0	1	0	1
413		2	max	-.005	1	.014	1	-.008	1	.283	2	-.268	1	.15	1	.424	2
414			min	-.019	2	.004	2	-.019	2	.268	1	-.283	2	-.337	2	-.189	1
415		3	max	-.01	1	0	1	0	1	.377	2	-.357	1	.201	1	.565	2
416			min	-.021	2	0	1	0	1	.357	1	-.377	2	-.45	2	-.252	1
417		4	max	-.014	1	-.004	2	.019	2	.283	2	-.268	1	.15	1	.424	2
418			min	-.022	2	-.014	1	.008	1	.268	1	-.283	2	-.337	2	-.189	1
419		5	max	-.019	1	-.009	2	.037	2	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
420			min	-.024	2	-.028	1	.015	1	0	1	0	1	0	1	0	1
421	M43	1	max	.343	2	.028	1	0	1	0	1	0	1	0	1	0	1
422			min	.167	1	.009	2	0	1	0	1	0	1	0	1	0	1
423		2	max	.342	2	.014	1	0	1	.173	1	-.054	2	.335	1	-.133	2
424			min	.162	1	.004	2	0	1	.054	2	-.173	1	.106	2	-.421	1
425		3	max	.34	2	0	1	0	1	.23	1	-.073	2	.447	1	-.177	2
426			min	.157	1	0	1	0	1	.073	2	-.23	1	.141	2	-.561	1
427		4	max	.339	2	-.004	2	0	1	.173	1	-.054	2	.335	1	-.133	2
428			min	.153	1	-.014	1	0	1	.054	2	-.173	1	.106	2	-.421	1
429		5	max	.337	2	-.009	2	0	1	0	1	0	1	0	1	0	1
430			min	.148	1	-.028	1	0	1	0	1	0	1	0	1	0	1
431	M44	1	max	-.142	1	.028	1	0	1	0	1	0	1	0	1	0	1
432			min	-.262	2	.009	2	0	1	0	1	0	1	0	1	0	1
433		2	max	-.147	1	.014	1	0	1	.173	1	-.054	2	.335	1	-.133	2
434			min	-.264	2	.004	2	0	1	.054	2	-.173	1	.106	2	-.421	1
435		3	max	-.151	1	0	1	0	1	.23	1	-.073	2	.447	1	-.177	2
436			min	-.265	2	0	1	0	1	.073	2	-.23	1	.141	2	-.561	1
437		4	max	-.156	1	-.004	2	0	1	.173	1	-.054	2	.335	1	-.133	2
438			min	-.267	2	-.014	1	0	1	.054	2	-.173	1	.106	2	-.421	1
439		5	max	-.161	1	-.009	2	0	1	0	1	0	1	0	1	0	1
440			min	-.268	2	-.028	1	0	1	0	1	0	1	0	1	0	1
441	M45	1	max	-1.163	1	.017	1	0	1	0	1	0	1	0	1	0	1
442			min	-3.545	2	.01	2	0	2	0	1	0	1	0	1	0	1
443		2	max	-1.163	1	.006	2	0	1	.064	1	-.052	2	.125	1	-.126	2
444			min	-3.545	2	.003	1	0	2	.052	2	-.064	1	.1	2	-.157	1
445		3	max	3.539	2	.011	1	0	1	.074	2	-.037	1	.144	2	-.09	1
446			min	1.226	1	-.001	2	0	2	.037	1	-.074	2	.071	1	-.181	2
447		4	max	3.539	2	-.003	1	0	1	.064	1	-.052	2	.125	1	-.126	2
448			min	1.226	1	-.006	2	0	2	.052	2	-.064	1	.1	2	-.157	1
449		5	max	3.539	2	-.01	2	0	1	0	1	0	1	0	1	0	1
450			min	1.226	1	-.017	1	0	2	0	1	0	1	0	1	0	1
451	M46	1	max	3.751	2	.015	1	0	2	0	1	0	1	0	1	0	1
452			min	1.301	1	.006	2	0	1	0	1	0	1	0	1	0	1
453		2	max	3.751	2	.001	1	0	2	.055	1	-.023	2	.107	1	-.057	2
454			min	1.301	1	.001	2	0	1	.023	2	-.055	1	.046	2	-.135	1
455		3	max	3.751	2	-.003	2	0	2	.019	1	-.018	2	.037	1	-.044	2
456			min	1.301	1	-.013	1	0	1	.018	2	-.019	1	.035	2	-.046	1
457		4	max	-1.106	1	-.001	2	0	2	.055	1	-.024	2	.107	1	-.057	2
458			min	-3.34	2	-.001	1	0	1	.024	2	-.055	1	.045	2	-.135	1
459		5	max	-1.106	1	-.006	2	0	2	0	1	0	1	0	1	0	1
460			min	-3.34	2	-.015	1	0	1	0	1	0	1	0	1	0	1
461	M47	1	max	3.277	2	.005	1	0	1	0	1	0	1	0	1	0	1
462			min	1.033	1	-.004	2	0	2	0	1	0	1	0	1	0	1
463		2	max	3.277	2	-.008	2	0	1	-.013	1	.041	2	-.026	1	.1	2
464			min	1.033	1	-.009	1	0	2	-.041	2	.013	1	-.079	2	.032	1
465		3	max	-1.062	1	.023	1	0	1	-.111	2	.118	1	-.214	2	.288	1
466			min	-3.028	2	.013	2	0	2	-.118	1	.111	2	-.229	1	.269	2
467		4	max	-1.062	1	.009	1	0	1	-.013	1	.041	2	-.026	1	.099	2
468			min	-3.028	2	.008	2	0	2	-.041	2	.013	1	-.079	2	.032	1
469		5	max	-1.062	1	.004	2	0	1	0	1	0	1	0	1	0	1
470			min	-3.028	2	-.005	1	0	2	0	1	0	1	0	1	0	1
471	M48	1	max	3.125	2	.007	1	0	2	0	1	0	1	0	1	0	1
472			min	.986	1	.003	2	0	1	0	1	0	1	0	1	0	1
473		2	max	3.125	2	-.002	2	0	2	.003	2	0	1	.007	2	-.002	1
474			min	.986	1	-.007	1	0	1	0	1	-.003	2	.002	1	-.009	2
475		3	max	-1.11	1	.021	1	0	2	-.022	2	.09	1	-.044	2	.22	1
476			min	-3.179	2	.006	2	0	1	-.09	1	.022	2	-.175	1	.056	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
477		4	max	-1.11	1	.007	1	0	2	.004	2	0	1	.006	2	-.002	1
478			min	-3.179	2	.002	2	0	1	0	1	-.004	2	.001	1	-.008	2
479		5	max	-1.11	1	-.003	2	0	2	0	1	0	1	0	1	0	1
480			min	-3.179	2	-.007	1	0	1	0	1	0	1	0	1	0	1
481	M49	1	max	1.106	2	.028	1	.03	2	0	1	0	1	0	1	0	1
482			min	.189	1	.009	2	.012	1	0	1	0	1	0	1	0	1
483		2	max	1.106	2	.014	1	.015	2	.077	1	.102	2	.385	1	-.46	2
484			min	.189	1	.004	2	.006	1	-.102	2	-.077	1	.366	2	-.483	1
485		3	max	1.106	2	0	1	0	1	.103	1	.136	2	.513	1	-.613	2
486			min	.189	1	0	1	0	1	-.136	2	-.103	1	.488	2	-.644	1
487		4	max	1.106	2	-.004	2	-.006	1	.077	1	.102	2	.385	1	-.46	2
488			min	.189	1	-.014	1	-.015	2	-.102	2	-.077	1	.366	2	-.483	1
489		5	max	1.106	2	-.009	2	-.012	1	0	1	0	1	0	1	0	1
490			min	.189	1	-.028	1	-.03	2	0	1	0	1	0	1	0	1
491	M50	1	max	-.561	1	.028	1	0	1	0	1	0	1	0	1	0	1
492			min	-1.261	2	.009	2	0	1	0	1	0	1	0	1	0	1
493		2	max	-.561	1	.014	1	0	1	.138	1	-.043	2	.267	1	-.106	2
494			min	-1.261	2	.004	2	0	1	.043	2	-.138	1	.084	2	-.336	1
495		3	max	-.561	1	0	1	0	1	.184	1	-.058	2	.356	1	-.141	2
496			min	-1.261	2	0	1	0	1	.058	2	-.184	1	.112	2	-.448	1
497		4	max	-.561	1	-.004	2	0	1	.138	1	-.043	2	.267	1	-.106	2
498			min	-1.261	2	-.014	1	0	1	.043	2	-.138	1	.084	2	-.336	1
499		5	max	-.561	1	-.009	2	0	1	0	1	0	1	0	1	0	1
500			min	-1.261	2	-.028	1	0	1	0	1	0	1	0	1	0	1
501	M51	1	max	1.736	2	.028	1	.03	2	0	1	0	1	0	1	0	1
502			min	.301	1	.009	2	.012	1	0	1	0	1	0	1	0	1
503		2	max	1.736	2	.014	1	.015	2	.077	1	.102	2	.385	1	-.46	2
504			min	.301	1	.004	2	.006	1	-.102	2	-.077	1	.366	2	-.483	1
505		3	max	1.736	2	0	1	0	1	.103	1	.136	2	.513	1	-.613	2
506			min	.301	1	0	1	0	1	-.136	2	-.103	1	.488	2	-.644	1
507		4	max	1.736	2	-.004	2	-.006	1	.077	1	.102	2	.385	1	-.46	2
508			min	.301	1	-.014	1	-.015	2	-.102	2	-.077	1	.366	2	-.483	1
509		5	max	1.736	2	-.009	2	-.012	1	0	1	0	1	0	1	0	1
510			min	.301	1	-.028	1	-.03	2	0	1	0	1	0	1	0	1
511	M52	1	max	-.872	1	.028	1	0	1	0	1	0	1	0	1	0	1
512			min	-1.973	2	.009	2	0	1	0	1	0	1	0	1	0	1
513		2	max	-.872	1	.014	1	0	1	.138	1	-.043	2	.267	1	-.106	2
514			min	-1.973	2	.004	2	0	1	.043	2	-.138	1	.084	2	-.336	1
515		3	max	-.872	1	0	1	0	1	.184	1	-.058	2	.356	1	-.141	2
516			min	-1.973	2	0	1	0	1	.058	2	-.184	1	.112	2	-.448	1
517		4	max	-.872	1	-.004	2	0	1	.138	1	-.043	2	.267	1	-.106	2
518			min	-1.973	2	-.014	1	0	1	.043	2	-.138	1	.084	2	-.336	1
519		5	max	-.872	1	-.009	2	0	1	0	1	0	1	0	1	0	1
520			min	-1.973	2	-.028	1	0	1	0	1	0	1	0	1	0	1
521	M53	1	max	-.352	1	.028	1	.049	2	0	1	0	1	0	1	0	1
522			min	-2.197	2	.009	2	.02	1	0	1	0	1	0	1	0	1
523		2	max	-.344	1	.014	1	.024	2	.062	1	.325	2	.908	2	-.957	1
524			min	-2.194	2	.004	2	.01	1	-.325	2	-.062	1	.762	1	-1.141	2
525		3	max	-.335	1	0	1	0	1	.083	1	.433	2	1.21	2	-1.276	1
526			min	-2.191	2	0	1	0	1	-.433	2	-.083	1	1.015	1	-1.521	2
527		4	max	-.327	1	-.004	2	-.01	1	.062	1	.325	2	.908	2	-.957	1
528			min	-2.189	2	-.014	1	-.024	2	-.325	2	-.062	1	.762	1	-1.141	2
529		5	max	-.319	1	-.009	2	-.02	1	0	1	0	1	0	1	0	1
530			min	-2.186	2	-.028	1	-.049	2	0	1	0	1	0	1	0	1
531	M54	1	max	-.516	1	.028	1	.049	2	0	1	0	1	0	1	0	1
532			min	-2.75	2	.009	2	.02	1	0	1	0	1	0	1	0	1
533		2	max	-.524	1	.014	1	.024	2	.062	1	.325	2	.908	2	-.957	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
534			min	-2.753	2	.004	2	.01	1	-.325	2	-.062	1	.762	1	-1.141	2
535		3	max	-.532	1	0	1	0	1	.083	1	.433	2	1.21	2	-1.276	1
536			min	-2.755	2	0	1	0	1	-.433	2	-.083	1	1.015	1	-1.521	2
537		4	max	-.541	1	-.004	2	-.01	1	.062	1	.325	2	.908	2	-.957	1
538			min	-2.758	2	-.014	1	-.024	2	-.325	2	-.062	1	.762	1	-1.141	2
539		5	max	-.549	1	-.009	2	-.02	1	0	1	0	1	0	1	0	1
540			min	-2.76	2	-.028	1	-.049	2	0	1	0	1	0	1	0	1
541	M55	1	max	.117	2	.028	1	0	1	0	1	0	1	0	1	0	1
542			min	.02	1	.009	2	0	1	0	1	0	1	0	1	0	1
543		2	max	.117	2	.014	1	0	1	.138	1	-.043	2	.267	1	-.106	2
544			min	.02	1	.004	2	0	1	.043	2	-.138	1	.084	2	-.336	1
545		3	max	.117	2	0	1	0	1	.184	1	-.058	2	.356	1	-.141	2
546			min	.02	1	0	1	0	1	.058	2	-.184	1	.112	2	-.448	1
547		4	max	.117	2	-.004	2	0	1	.138	1	-.043	2	.267	1	-.106	2
548			min	.02	1	-.014	1	0	1	.043	2	-.138	1	.084	2	-.336	1
549		5	max	.117	2	-.009	2	0	1	0	1	0	1	0	1	0	1
550			min	.02	1	-.028	1	0	1	0	1	0	1	0	1	0	1
551	M56	1	max	3.085	2	.028	1	0	1	0	1	0	1	0	1	0	1
552			min	1.315	1	.009	2	0	1	0	1	0	1	0	1	0	1
553		2	max	3.088	2	.014	1	0	1	.227	1	-.072	2	.441	1	-.175	2
554			min	1.323	1	.004	2	0	1	.072	2	-.227	1	.139	2	-.555	1
555		3	max	3.091	2	0	1	0	1	.303	1	-.096	2	.588	1	-.233	2
556			min	1.331	1	0	1	0	1	.096	2	-.303	1	.185	2	-.739	1
557		4	max	3.093	2	-.004	2	0	1	.227	1	-.072	2	.441	1	-.175	2
558			min	1.34	1	-.014	1	0	1	.072	2	-.227	1	.139	2	-.555	1
559		5	max	3.096	2	-.009	2	0	1	0	1	0	1	0	1	0	1
560			min	1.348	1	-.028	1	0	1	0	1	0	1	0	1	0	1
561	M57	1	max	2.534	2	.028	1	0	1	0	1	0	1	0	1	0	1
562			min	1.165	1	.009	2	0	1	0	1	0	1	0	1	0	1
563		2	max	2.532	2	.014	1	0	1	.227	1	-.072	2	.441	1	-.175	2
564			min	1.157	1	.004	2	0	1	.072	2	-.227	1	.139	2	-.555	1
565		3	max	2.529	2	0	1	0	1	.303	1	-.096	2	.588	1	-.233	2
566			min	1.149	1	0	1	0	1	.096	2	-.303	1	.185	2	-.739	1
567		4	max	2.526	2	-.004	2	0	1	.227	1	-.072	2	.441	1	-.175	2
568			min	1.141	1	-.014	1	0	1	.072	2	-.227	1	.139	2	-.555	1
569		5	max	2.524	2	-.009	2	0	1	0	1	0	1	0	1	0	1
570			min	1.133	1	-.028	1	0	1	0	1	0	1	0	1	0	1
571	M58	1	max	-.06	1	.028	1	0	1	0	1	0	1	0	1	0	1
572			min	-.134	2	.009	2	0	1	0	1	0	1	0	1	0	1
573		2	max	-.06	1	.014	1	0	1	.138	1	-.043	2	.267	1	-.106	2
574			min	-.134	2	.004	2	0	1	.043	2	-.138	1	.084	2	-.336	1
575		3	max	-.06	1	0	1	0	1	.184	1	-.058	2	.356	1	-.141	2
576			min	-.134	2	0	1	0	1	.058	2	-.184	1	.112	2	-.448	1
577		4	max	-.06	1	-.004	2	0	1	.138	1	-.043	2	.267	1	-.106	2
578			min	-.134	2	-.014	1	0	1	.043	2	-.138	1	.084	2	-.336	1
579		5	max	-.06	1	-.009	2	0	1	0	1	0	1	0	1	0	1
580			min	-.134	2	-.028	1	0	1	0	1	0	1	0	1	0	1
581	M59	1	max	-.865	1	.028	1	0	1	0	1	0	1	0	1	0	1
582			min	-2.915	2	.009	2	0	1	0	1	0	1	0	1	0	1
583		2	max	-.872	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
584			min	-2.917	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
585		3	max	-.88	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
586			min	-2.919	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
587		4	max	-.887	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
588			min	-2.922	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
589		5	max	-.894	1	-.009	2	0	1	0	1	0	1	0	1	0	1
590			min	-2.924	2	-.028	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
591	M60	1	max	3.041	2	.028	1	0	1	0	1	0	1	0	1	0	1
592			min	1.069	1	.009	2	0	1	0	1	0	1	0	1	0	1
593		2	max	3.043	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
594			min	1.076	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
595		3	max	3.045	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
596			min	1.083	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
597		4	max	3.047	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
598			min	1.09	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
599		5	max	3.05	2	-.009	2	0	1	0	1	0	1	0	1	0	1
600			min	1.098	1	-.028	1	0	1	0	1	0	1	0	1	0	1
601	M61	1	max	-.077	1	.028	1	-.019	1	0	1	0	1	0	1	0	1
602			min	-.432	2	.009	2	-.06	2	0	1	0	1	0	1	0	1
603		2	max	-.084	1	.014	1	-.009	1	.518	2	-.352	1	.134	1	.94	2
604			min	-.434	2	.004	2	-.03	2	.352	1	-.518	2	-.748	2	-.169	1
605		3	max	-.092	1	0	1	0	1	.691	2	-.469	1	.179	1	1.253	2
606			min	-.436	2	0	1	0	1	.469	1	-.691	2	-.997	2	-.225	1
607		4	max	-.099	1	-.004	2	.03	2	.518	2	-.352	1	.134	1	.94	2
608			min	-.438	2	-.014	1	.009	1	.352	1	-.518	2	-.748	2	-.169	1
609		5	max	-.106	1	-.009	2	.06	2	0	1	0	1	0	1	0	1
610			min	-.441	2	-.028	1	.019	1	0	1	0	1	0	1	0	1
611	M62	1	max	-.009	1	.028	1	.06	2	0	1	0	1	0	1	0	1
612			min	-.27	2	.009	2	.019	1	0	1	0	1	0	1	0	1
613		2	max	-.016	1	.014	1	.03	2	.069	1	.385	2	1.005	2	-.857	1
614			min	-.272	2	.004	2	.009	1	-.385	2	-.069	1	.682	1	-1.263	2
615		3	max	-.024	1	0	1	0	1	.092	1	.514	2	1.34	2	-1.143	1
616			min	-.275	2	0	1	0	1	-.514	2	-.092	1	.909	1	-1.684	2
617		4	max	-.031	1	-.004	2	-.009	1	.069	1	.385	2	1.005	2	-.857	1
618			min	-.277	2	-.014	1	-.03	2	-.385	2	-.069	1	.682	1	-1.263	2
619		5	max	-.038	1	-.009	2	-.019	1	0	1	0	1	0	1	0	1
620			min	-.279	2	-.028	1	-.06	2	0	1	0	1	0	1	0	1
621	M63	1	max	-.811	1	.028	1	0	1	0	1	0	1	0	1	0	1
622			min	-2.763	2	.009	2	0	1	0	1	0	1	0	1	0	1
623		2	max	-.818	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
624			min	-2.765	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
625		3	max	-.825	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
626			min	-2.768	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
627		4	max	-.832	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
628			min	-2.77	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
629		5	max	-.839	1	-.009	2	0	1	0	1	0	1	0	1	0	1
630			min	-2.772	2	-.028	1	0	1	0	1	0	1	0	1	0	1
631	M64	1	max	3.186	2	.028	1	0	1	0	1	0	1	0	1	0	1
632			min	1.107	1	.009	2	0	1	0	1	0	1	0	1	0	1
633		2	max	3.188	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
634			min	1.115	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
635		3	max	3.19	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
636			min	1.122	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
637		4	max	3.193	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
638			min	1.129	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
639		5	max	3.195	2	-.009	2	0	1	0	1	0	1	0	1	0	1
640			min	1.136	1	-.028	1	0	1	0	1	0	1	0	1	0	1
641	M65	1	max	.489	2	.028	1	0	1	0	1	0	1	0	1	0	1
642			min	.218	1	.009	2	0	1	0	1	0	1	0	1	0	1
643		2	max	.487	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
644			min	.211	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
645		3	max	.485	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
646			min	.204	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
647		4	max	.482	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
648			min	.196	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
649		5	max	.48	2	-.009	2	0	1	0	1	0	1	0	1	0	1
650			min	.189	1	-.028	1	0	1	0	1	0	1	0	1	0	1
651	M66	1	max	.331	2	.028	1	0	1	0	1	0	1	0	1	0	1
652			min	.172	1	.009	2	0	1	0	1	0	1	0	1	0	1
653		2	max	.328	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
654			min	.165	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
655		3	max	.326	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
656			min	.158	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
657		4	max	.324	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
658			min	.151	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
659		5	max	.322	2	-.009	2	0	1	0	1	0	1	0	1	0	1
660			min	.144	1	-.028	1	0	1	0	1	0	1	0	1	0	1
661	M67	1	max	.258	2	.028	1	.06	2	0	1	0	1	0	1	0	1
662			min	.049	1	.009	2	.019	1	0	1	0	1	0	1	0	1
663		2	max	.256	2	.014	1	.03	2	.069	1	.385	2	1.005	2	-.857	1
664			min	.042	1	.004	2	.009	1	-.385	2	-.069	1	.682	1	-1.263	2
665		3	max	.253	2	0	1	0	1	.092	1	.514	2	1.34	2	-1.143	1
666			min	.035	1	0	1	0	1	-.514	2	-.092	1	.909	1	-1.684	2
667		4	max	.251	2	-.004	2	-.009	1	.069	1	.385	2	1.005	2	-.857	1
668			min	.027	1	-.014	1	-.03	2	-.385	2	-.069	1	.682	1	-1.263	2
669		5	max	.249	2	-.009	2	-.019	1	0	1	0	1	0	1	0	1
670			min	.02	1	-.028	1	-.06	2	0	1	0	1	0	1	0	1
671	M68	1	max	.248	2	.028	1	.06	2	0	1	0	1	0	1	0	1
672			min	.035	1	.009	2	.019	1	0	1	0	1	0	1	0	1
673		2	max	.25	2	.014	1	.03	2	.069	1	.385	2	1.005	2	-.857	1
674			min	.043	1	.004	2	.009	1	-.385	2	-.069	1	.682	1	-1.263	2
675		3	max	.252	2	0	1	0	1	.092	1	.514	2	1.34	2	-1.143	1
676			min	.05	1	0	1	0	1	-.514	2	-.092	1	.909	1	-1.684	2
677		4	max	.255	2	-.004	2	-.009	1	.069	1	.385	2	1.005	2	-.857	1
678			min	.057	1	-.014	1	-.03	2	-.385	2	-.069	1	.682	1	-1.263	2
679		5	max	.257	2	-.009	2	-.019	1	0	1	0	1	0	1	0	1
680			min	.064	1	-.028	1	-.06	2	0	1	0	1	0	1	0	1
681	M69	1	max	-.877	1	.028	1	0	1	0	1	0	1	0	1	0	1
682			min	-2.672	2	.009	2	0	1	0	1	0	1	0	1	0	1
683		2	max	-.884	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
684			min	-2.674	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
685		3	max	-.892	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
686			min	-2.676	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
687		4	max	-.899	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
688			min	-2.679	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
689		5	max	-.906	1	-.009	2	0	1	0	1	0	1	0	1	0	1
690			min	-2.681	2	-.028	1	0	1	0	1	0	1	0	1	0	1
691	M70	1	max	2.93	2	.028	1	0	1	0	1	0	1	0	1	0	1
692			min	.881	1	.009	2	0	1	0	1	0	1	0	1	0	1
693		2	max	2.932	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
694			min	.888	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
695		3	max	2.935	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
696			min	.895	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
697		4	max	2.937	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
698			min	.903	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
699		5	max	2.939	2	-.009	2	0	1	0	1	0	1	0	1	0	1
700			min	.91	1	-.028	1	0	1	0	1	0	1	0	1	0	1
701	M71	1	max	-.906	1	.028	1	0	1	0	1	0	1	0	1	0	1
702			min	-2.727	2	.009	2	0	1	0	1	0	1	0	1	0	1
703		2	max	-.913	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
704			min	-2.73	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
705		3	max	-.92	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
706			min	-2.732	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
707		4	max	-.928	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
708			min	-2.734	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
709		5	max	-.935	1	-.009	2	0	1	0	1	0	1	0	1	0	1
710			min	-2.736	2	-.028	1	0	1	0	1	0	1	0	1	0	1
711	M72	1	max	2.884	2	.028	1	0	1	0	1	0	1	0	1	0	1
712			min	.878	1	.009	2	0	1	0	1	0	1	0	1	0	1
713		2	max	2.886	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
714			min	.885	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
715		3	max	2.889	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
716			min	.892	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
717		4	max	2.891	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
718			min	.899	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
719		5	max	2.893	2	-.009	2	0	1	0	1	0	1	0	1	0	1
720			min	.906	1	-.028	1	0	1	0	1	0	1	0	1	0	1
721	M73	1	max	-.106	1	.028	1	0	1	0	1	0	1	0	1	0	1
722			min	-.281	2	.009	2	0	1	0	1	0	1	0	1	0	1
723		2	max	-.114	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
724			min	-.284	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
725		3	max	-.121	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
726			min	-.286	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
727		4	max	-.128	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
728			min	-.288	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
729		5	max	-.135	1	-.009	2	0	1	0	1	0	1	0	1	0	1
730			min	-.29	2	-.028	1	0	1	0	1	0	1	0	1	0	1
731	M74	1	max	-.149	1	.028	1	0	1	0	1	0	1	0	1	0	1
732			min	-.295	2	.009	2	0	1	0	1	0	1	0	1	0	1
733		2	max	-.142	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
734			min	-.292	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
735		3	max	-.135	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
736			min	-.29	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
737		4	max	-.127	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
738			min	-.288	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
739		5	max	-.12	1	-.009	2	0	1	0	1	0	1	0	1	0	1
740			min	-.286	2	-.028	1	0	1	0	1	0	1	0	1	0	1
741	M75	1	max	-.731	1	.028	1	0	1	0	1	0	1	0	1	0	1
742			min	-2.49	2	.009	2	0	1	0	1	0	1	0	1	0	1
743		2	max	-.738	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
744			min	-2.492	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
745		3	max	-.745	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
746			min	-2.494	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
747		4	max	-.753	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
748			min	-2.497	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
749		5	max	-.76	1	-.009	2	0	1	0	1	0	1	0	1	0	1
750			min	-2.499	2	-.028	1	0	1	0	1	0	1	0	1	0	1
751	M76	1	max	2.678	2	.028	1	0	1	0	1	0	1	0	1	0	1
752			min	.855	1	.009	2	0	1	0	1	0	1	0	1	0	1
753		2	max	2.68	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
754			min	.862	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
755		3	max	2.683	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
756			min	.869	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
757		4	max	2.685	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
758			min	.877	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
759		5	max	2.687	2	-.009	2	0	1	0	1	0	1	0	1	0	1
760			min	.884	1	-.028	1	0	1	0	1	0	1	0	1	0	1
761	M77	1	max	.158	2	.028	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
762			min	.074	1	.009	2	0	1	0	1	0	1	0	1	0	1
763		2	max	.156	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
764			min	.067	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
765		3	max	.153	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
766			min	.06	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
767		4	max	.151	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
768			min	.053	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
769		5	max	.149	2	-.009	2	0	1	0	1	0	1	0	1	0	1
770			min	.045	1	-.028	1	0	1	0	1	0	1	0	1	0	1
771	M78	1	max	.122	2	.028	1	0	1	0	1	0	1	0	1	0	1
772			min	.049	1	.009	2	0	1	0	1	0	1	0	1	0	1
773		2	max	.125	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
774			min	.056	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
775		3	max	.127	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
776			min	.064	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
777		4	max	.129	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
778			min	.071	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
779		5	max	.131	2	-.009	2	0	1	0	1	0	1	0	1	0	1
780			min	.078	1	-.028	1	0	1	0	1	0	1	0	1	0	1
781	M79	1	max	2.729	2	.028	1	0	1	0	1	0	1	0	1	0	1
782			min	.881	1	.009	2	0	1	0	1	0	1	0	1	0	1
783		2	max	2.731	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
784			min	.888	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
785		3	max	2.734	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
786			min	.895	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
787		4	max	2.736	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
788			min	.903	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
789		5	max	2.738	2	-.009	2	0	1	0	1	0	1	0	1	0	1
790			min	.91	1	-.028	1	0	1	0	1	0	1	0	1	0	1
791	M80	1	max	-.728	1	.028	1	0	1	0	1	0	1	0	1	0	1
792			min	-2.448	2	.009	2	0	1	0	1	0	1	0	1	0	1
793		2	max	-.735	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
794			min	-2.45	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
795		3	max	-.742	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
796			min	-2.453	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
797		4	max	-.75	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
798			min	-2.455	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
799		5	max	-.757	1	-.009	2	0	1	0	1	0	1	0	1	0	1
800			min	-2.457	2	-.028	1	0	1	0	1	0	1	0	1	0	1
801	M81	1	max	.004	1	.028	1	.06	2	0	1	0	1	0	1	0	1
802			min	-.104	2	.009	2	.019	1	0	1	0	1	0	1	0	1
803		2	max	-.003	1	.014	1	.03	2	.069	1	.385	2	1.005	2	-.857	1
804			min	-.106	2	.004	2	.009	1	-.385	2	-.069	1	.682	1	-1.263	2
805		3	max	-.01	1	0	1	0	1	.092	1	.514	2	1.34	2	-1.143	1
806			min	-.109	2	0	1	0	1	-.514	2	-.092	1	.909	1	-1.684	2
807		4	max	-.018	1	-.004	2	-.009	1	.069	1	.385	2	1.005	2	-.857	1
808			min	-.111	2	-.014	1	-.03	2	-.385	2	-.069	1	.682	1	-1.263	2
809		5	max	-.025	1	-.009	2	-.019	1	0	1	0	1	0	1	0	1
810			min	-.113	2	-.028	1	-.06	2	0	1	0	1	0	1	0	1
811	M82	1	max	-.047	1	.028	1	.06	2	0	1	0	1	0	1	0	1
812			min	-.142	2	.009	2	.019	1	0	1	0	1	0	1	0	1
813		2	max	-.04	1	.014	1	.03	2	.069	1	.385	2	1.005	2	-.857	1
814			min	-.139	2	.004	2	.009	1	-.385	2	-.069	1	.682	1	-1.263	2
815		3	max	-.032	1	0	1	0	1	.092	1	.514	2	1.34	2	-1.143	1
816			min	-.137	2	0	1	0	1	-.514	2	-.092	1	.909	1	-1.684	2
817		4	max	-.025	1	-.004	2	-.009	1	.069	1	.385	2	1.005	2	-.857	1
818			min	-.135	2	-.014	1	-.03	2	-.385	2	-.069	1	.682	1	-1.263	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
819		5	max	-.018	1	-.009	2	-.019	1	0	1	0	1	0	1	0	1
820			min	-.133	2	-.028	1	-.06	2	0	1	0	1	0	1	0	1
821	M83	1	max	.025	2	.028	1	.06	2	0	1	0	1	0	1	0	1
822			min	-.01	1	.009	2	.019	1	0	1	0	1	0	1	0	1
823		2	max	.027	2	.014	1	.03	2	.069	1	.385	2	1.005	2	-.857	1
824			min	-.003	1	.004	2	.009	1	-.385	2	-.069	1	.682	1	-1.263	2
825		3	max	.03	2	0	1	0	1	.092	1	.514	2	1.34	2	-1.143	1
826			min	.004	1	0	1	0	1	-.514	2	-.092	1	.909	1	-1.684	2
827		4	max	.032	2	-.004	2	-.009	1	.069	1	.385	2	1.005	2	-.857	1
828			min	.012	1	-.014	1	-.03	2	-.385	2	-.069	1	.682	1	-1.263	2
829		5	max	.034	2	-.009	2	-.019	1	0	1	0	1	0	1	0	1
830			min	.019	1	-.028	1	-.06	2	0	1	0	1	0	1	0	1
831	M84	1	max	.033	2	.028	1	.06	2	0	1	0	1	0	1	0	1
832			min	.016	1	.009	2	.019	1	0	1	0	1	0	1	0	1
833		2	max	.031	2	.014	1	.03	2	.069	1	.385	2	1.005	2	-.857	1
834			min	.009	1	.004	2	.009	1	-.385	2	-.069	1	.682	1	-1.263	2
835		3	max	.029	2	0	1	0	1	.092	1	.514	2	1.34	2	-1.143	1
836			min	.002	1	0	1	0	1	-.514	2	-.092	1	.909	1	-1.684	2
837		4	max	.026	2	-.004	2	-.009	1	.069	1	.385	2	1.005	2	-.857	1
838			min	-.005	1	-.014	1	-.03	2	-.385	2	-.069	1	.682	1	-1.263	2
839		5	max	.024	2	-.009	2	-.019	1	0	1	0	1	0	1	0	1
840			min	-.013	1	-.028	1	-.06	2	0	1	0	1	0	1	0	1
841	M85	1	max	-.62	1	.028	1	0	1	0	1	0	1	0	1	0	1
842			min	-2.069	2	.009	2	0	1	0	1	0	1	0	1	0	1
843		2	max	-.627	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
844			min	-2.071	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
845		3	max	-.634	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
846			min	-2.073	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
847		4	max	-.641	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
848			min	-2.076	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
849		5	max	-.648	1	-.009	2	0	1	0	1	0	1	0	1	0	1
850			min	-2.078	2	-.028	1	0	1	0	1	0	1	0	1	0	1
851	M86	1	max	2.381	2	.028	1	0	1	0	1	0	1	0	1	0	1
852			min	.719	1	.009	2	0	1	0	1	0	1	0	1	0	1
853		2	max	2.383	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
854			min	.726	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
855		3	max	2.385	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
856			min	.733	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
857		4	max	2.388	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
858			min	.74	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
859		5	max	2.39	2	-.009	2	0	1	0	1	0	1	0	1	0	1
860			min	.748	1	-.028	1	0	1	0	1	0	1	0	1	0	1
861	M87	1	max	-.004	1	.028	1	0	1	0	1	0	1	0	1	0	1
862			min	-.034	2	.009	2	0	1	0	1	0	1	0	1	0	1
863		2	max	-.011	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
864			min	-.036	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
865		3	max	-.019	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
866			min	-.038	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
867		4	max	-.026	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
868			min	-.041	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
869		5	max	-.033	1	-.009	2	0	1	0	1	0	1	0	1	0	1
870			min	-.043	2	-.028	1	0	1	0	1	0	1	0	1	0	1
871	M88	1	max	-.033	1	.028	1	0	1	0	1	0	1	0	1	0	1
872			min	-.04	2	.009	2	0	1	0	1	0	1	0	1	0	1
873		2	max	-.026	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
874			min	-.038	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
875		3	max	-.019	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
876			min	-.036	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
877		4	max	-.011	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
878			min	-.033	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
879		5	max	-.004	1	-.009	2	0	1	0	1	0	1	0	1	0	1
880			min	-.031	2	-.028	1	0	1	0	1	0	1	0	1	0	1
881	M89	1	max	-.648	1	.028	1	0	1	0	1	0	1	0	1	0	1
882			min	-2.164	2	.009	2	0	1	0	1	0	1	0	1	0	1
883		2	max	-.656	1	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
884			min	-2.166	2	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
885		3	max	-.663	1	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
886			min	-2.168	2	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
887		4	max	-.67	1	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
888			min	-2.17	2	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
889		5	max	-.677	1	-.009	2	0	1	0	1	0	1	0	1	0	1
890			min	-2.173	2	-.028	1	0	1	0	1	0	1	0	1	0	1
891	M90	1	max	2.286	2	.028	1	0	1	0	1	0	1	0	1	0	1
892			min	.689	1	.009	2	0	1	0	1	0	1	0	1	0	1
893		2	max	2.288	2	.014	1	0	1	.21	1	-.066	2	.408	1	-.162	2
894			min	.696	1	.004	2	0	1	.066	2	-.21	1	.129	2	-.513	1
895		3	max	2.291	2	0	1	0	1	.28	1	-.088	2	.544	1	-.216	2
896			min	.703	1	0	1	0	1	.088	2	-.28	1	.171	2	-.684	1
897		4	max	2.293	2	-.004	2	0	1	.21	1	-.066	2	.408	1	-.162	2
898			min	.71	1	-.014	1	0	1	.066	2	-.21	1	.129	2	-.513	1
899		5	max	2.295	2	-.009	2	0	1	0	1	0	1	0	1	0	1
900			min	.718	1	-.028	1	0	1	0	1	0	1	0	1	0	1
901	M91	1	max	.013	1	.028	1	.054	2	0	1	0	1	0	1	0	1
902			min	-.005	2	.009	2	.017	1	0	1	0	1	0	1	0	1
903		2	max	.007	1	.014	1	.027	2	.075	1	.305	2	.822	2	-.738	1
904			min	-.006	2	.004	2	.008	1	-.305	2	-.075	1	.587	1	-1.033	2
905		3	max	.002	1	0	1	0	1	.1	1	.406	2	1.096	2	-.984	1
906			min	-.008	2	0	1	0	1	-.406	2	-.1	1	.783	1	-1.377	2
907		4	max	-.004	1	-.004	2	-.008	1	.075	1	.305	2	.822	2	-.738	1
908			min	-.01	2	-.014	1	-.027	2	-.305	2	-.075	1	.587	1	-1.033	2
909		5	max	-.01	1	-.009	2	-.017	1	0	1	0	1	0	1	0	1
910			min	-.012	2	-.028	1	-.054	2	0	1	0	1	0	1	0	1
911	M92	1	max	.019	2	.028	1	.054	2	0	1	0	1	0	1	0	1
912			min	0	1	.009	2	.017	1	0	1	0	1	0	1	0	1
913		2	max	.021	2	.014	1	.027	2	.075	1	.305	2	.822	2	-.738	1
914			min	.006	1	.004	2	.008	1	-.305	2	-.075	1	.587	1	-1.033	2
915		3	max	.023	2	0	1	0	1	.1	1	.406	2	1.096	2	-.984	1
916			min	.012	1	0	1	0	1	-.406	2	-.1	1	.783	1	-1.377	2
917		4	max	.025	2	-.004	2	-.008	1	.075	1	.305	2	.822	2	-.738	1
918			min	.018	1	-.014	1	-.027	2	-.305	2	-.075	1	.587	1	-1.033	2
919		5	max	.027	2	-.009	2	-.017	1	0	1	0	1	0	1	0	1
920			min	.023	1	-.028	1	-.054	2	0	1	0	1	0	1	0	1
921	M93	1	max	-.656	1	.028	1	0	1	0	1	0	1	0	1	0	1
922			min	-2.307	2	.009	2	0	1	0	1	0	1	0	1	0	1
923		2	max	-.662	1	.014	1	0	1	.189	1	-.06	2	.366	1	-.145	2
924			min	-2.309	2	.004	2	0	1	.06	2	-.189	1	.115	2	-.46	1
925		3	max	-.668	1	0	1	0	1	.252	1	-.079	2	.489	1	-.193	2
926			min	-2.311	2	0	1	0	1	.079	2	-.252	1	.154	2	-.614	1
927		4	max	-.674	1	-.004	2	0	1	.189	1	-.06	2	.366	1	-.145	2
928			min	-2.313	2	-.014	1	0	1	.06	2	-.189	1	.115	2	-.46	1
929		5	max	-.68	1	-.009	2	0	1	0	1	0	1	0	1	0	1
930			min	-2.315	2	-.028	1	0	1	0	1	0	1	0	1	0	1
931	M94	1	max	2.438	2	.028	1	0	1	0	1	0	1	0	1	0	1
932			min	.726	1	.009	2	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
933		2	max	2.44	2	.014	1	0	1	.189	1	-.06	2	.366	1	-.145	2
934			min	.731	1	.004	2	0	1	.06	2	-.189	1	.115	2	-.46	1
935		3	max	2.442	2	0	1	0	1	.252	1	-.079	2	.489	1	-.193	2
936			min	.737	1	0	1	0	1	.079	2	-.252	1	.154	2	-.614	1
937		4	max	2.443	2	-.004	2	0	1	.189	1	-.06	2	.366	1	-.145	2
938			min	.743	1	-.014	1	0	1	.06	2	-.189	1	.115	2	-.46	1
939		5	max	2.445	2	-.009	2	0	1	0	1	0	1	0	1	0	1
940			min	.749	1	-.028	1	0	1	0	1	0	1	0	1	0	1
941	M95	1	max	.01	2	.028	1	0	1	0	1	0	1	0	1	0	1
942			min	-.004	1	.009	2	0	1	0	1	0	1	0	1	0	1
943		2	max	.012	2	.014	1	0	1	.189	1	-.06	2	.366	1	-.145	2
944			min	.002	1	.004	2	0	1	.06	2	-.189	1	.115	2	-.46	1
945		3	max	.013	2	0	1	0	1	.252	1	-.079	2	.489	1	-.193	2
946			min	.008	1	0	1	0	1	.079	2	-.252	1	.154	2	-.614	1
947		4	max	.015	2	-.004	2	0	1	.189	1	-.06	2	.366	1	-.145	2
948			min	.014	1	-.014	1	0	1	.06	2	-.189	1	.115	2	-.46	1
949		5	max	.02	1	-.009	2	0	1	0	1	0	1	0	1	0	1
950			min	.017	2	-.028	1	0	1	0	1	0	1	0	1	0	1
951	M96	1	max	.014	1	.028	1	0	1	0	1	0	1	0	1	0	1
952			min	-.012	2	.009	2	0	1	0	1	0	1	0	1	0	1
953		2	max	.008	1	.014	1	0	1	.189	1	-.06	2	.366	1	-.145	2
954			min	-.014	2	.004	2	0	1	.06	2	-.189	1	.115	2	-.46	1
955		3	max	.002	1	0	1	0	1	.252	1	-.079	2	.489	1	-.193	2
956			min	-.016	2	0	1	0	1	.079	2	-.252	1	.154	2	-.614	1
957		4	max	-.004	1	-.004	2	0	1	.189	1	-.06	2	.366	1	-.145	2
958			min	-.017	2	-.014	1	0	1	.06	2	-.189	1	.115	2	-.46	1
959		5	max	-.01	1	-.009	2	0	1	0	1	0	1	0	1	0	1
960			min	-.019	2	-.028	1	0	1	0	1	0	1	0	1	0	1
961	M97	1	max	-.631	1	.028	1	0	1	0	1	0	1	0	1	0	1
962			min	-2.233	2	.009	2	0	1	0	1	0	1	0	1	0	1
963		2	max	-.637	1	.014	1	0	1	.189	1	-.06	2	.366	1	-.145	2
964			min	-2.234	2	.004	2	0	1	.06	2	-.189	1	.115	2	-.46	1
965		3	max	-.643	1	0	1	0	1	.252	1	-.079	2	.489	1	-.193	2
966			min	-2.236	2	0	1	0	1	.079	2	-.252	1	.154	2	-.614	1
967		4	max	-.649	1	-.004	2	0	1	.189	1	-.06	2	.366	1	-.145	2
968			min	-2.238	2	-.014	1	0	1	.06	2	-.189	1	.115	2	-.46	1
969		5	max	-.655	1	-.009	2	0	1	0	1	0	1	0	1	0	1
970			min	-2.24	2	-.028	1	0	1	0	1	0	1	0	1	0	1
971	M98	1	max	2.511	2	.028	1	0	1	0	1	0	1	0	1	0	1
972			min	.746	1	.009	2	0	1	0	1	0	1	0	1	0	1
973		2	max	2.513	2	.014	1	0	1	.189	1	-.06	2	.366	1	-.145	2
974			min	.752	1	.004	2	0	1	.06	2	-.189	1	.115	2	-.46	1
975		3	max	2.515	2	0	1	0	1	.252	1	-.079	2	.489	1	-.193	2
976			min	.758	1	0	1	0	1	.079	2	-.252	1	.154	2	-.614	1
977		4	max	2.516	2	-.004	2	0	1	.189	1	-.06	2	.366	1	-.145	2
978			min	.764	1	-.014	1	0	1	.06	2	-.189	1	.115	2	-.46	1
979		5	max	2.518	2	-.009	2	0	1	0	1	0	1	0	1	0	1
980			min	.77	1	-.028	1	0	1	0	1	0	1	0	1	0	1
981	M99	1	max	0	2	.015	1	0	1	0	1	0	1	0	1	0	1
982			min	0	1	.008	2	0	1	0	1	0	1	0	1	0	1
983		2	max	0	2	.007	1	0	1	.021	1	-.011	2	0	1	0	1
984			min	0	1	.004	2	0	1	.011	2	-.021	1	0	1	0	1
985		3	max	0	2	0	1	0	1	.028	1	-.015	2	0	1	0	1
986			min	0	1	0	1	0	1	.015	2	-.028	1	0	1	0	1
987		4	max	0	2	-.004	2	0	1	.021	1	-.011	2	0	1	0	1
988			min	0	1	-.007	1	0	1	.011	2	-.021	1	0	1	0	1
989		5	max	0	2	-.008	2	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
990			min	0	1	-.015	1	0	1	0	1	0	1	0	1	0	1
991	M100	1	max	0	1	.015	1	0	1	0	1	0	1	0	1	0	1
992			min	0	1	.008	2	0	1	0	1	0	1	0	1	0	1
993		2	max	0	1	.007	1	0	1	.021	1	-.011	2	0	1	0	1
994			min	0	1	.004	2	0	1	.011	2	-.021	1	0	1	0	1
995		3	max	0	1	0	1	0	1	.028	1	-.015	2	0	1	0	1
996			min	0	1	0	1	0	1	.015	2	-.028	1	0	1	0	1
997		4	max	0	1	-.004	2	0	1	.021	1	-.011	2	0	1	0	1
998			min	0	1	-.007	1	0	1	.011	2	-.021	1	0	1	0	1
999		5	max	0	1	-.008	2	0	1	0	1	0	1	0	1	0	1
1000			min	0	1	-.015	1	0	1	0	1	0	1	0	1	0	1
1001	M101	1	max	0	1	.015	1	0	1	0	1	0	1	0	1	0	1
1002			min	0	2	.008	2	0	1	0	1	0	1	0	1	0	1
1003		2	max	0	1	.007	1	0	1	.021	1	-.011	2	0	1	0	1
1004			min	0	2	.004	2	0	1	.011	2	-.021	1	0	1	0	1
1005		3	max	0	1	0	1	0	1	.028	1	-.015	2	0	1	0	1
1006			min	0	2	0	1	0	1	.015	2	-.028	1	0	1	0	1
1007		4	max	0	1	-.004	2	0	1	.021	1	-.011	2	0	1	0	1
1008			min	0	2	-.007	1	0	1	.011	2	-.021	1	0	1	0	1
1009		5	max	0	1	-.008	2	0	1	0	1	0	1	0	1	0	1
1010			min	0	2	-.015	1	0	1	0	1	0	1	0	1	0	1
1011	M102	1	max	0	1	.015	1	0	1	0	1	0	1	0	1	0	1
1012			min	0	1	.008	2	0	1	0	1	0	1	0	1	0	1
1013		2	max	0	1	.007	1	0	1	.021	1	-.011	2	0	1	0	1
1014			min	0	1	.004	2	0	1	.011	2	-.021	1	0	1	0	1
1015		3	max	0	1	0	1	0	1	.028	1	-.015	2	0	1	0	1
1016			min	0	1	0	1	0	1	.015	2	-.028	1	0	1	0	1
1017		4	max	0	1	-.004	2	0	1	.021	1	-.011	2	0	1	0	1
1018			min	0	1	-.007	1	0	1	.011	2	-.021	1	0	1	0	1
1019		5	max	0	1	-.008	2	0	1	0	1	0	1	0	1	0	1
1020			min	0	1	-.015	1	0	1	0	1	0	1	0	1	0	1
1021	M103	1	max	-.107	1	.014	1	0	1	0	1	0	1	0	1	0	1
1022			min	-.164	2	.004	2	0	1	0	1	0	1	0	1	0	1
1023		2	max	-.105	1	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1024			min	-.163	2	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1025		3	max	-.102	1	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1026			min	-.162	2	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1027		4	max	-.099	1	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1028			min	-.162	2	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1029		5	max	-.097	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1030			min	-.161	2	-.014	1	0	1	0	1	0	1	0	1	0	1
1031	M104	1	max	.153	2	.014	1	0	1	0	1	0	1	0	1	0	1
1032			min	.061	1	.004	2	0	1	0	1	0	1	0	1	0	1
1033		2	max	.152	2	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1034			min	.058	1	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1035		3	max	.151	2	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1036			min	.056	1	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1037		4	max	.15	2	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1038			min	.053	1	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1039		5	max	.149	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1040			min	.05	1	-.014	1	0	1	0	1	0	1	0	1	0	1
1041	M105	1	max	.233	2	.014	1	0	1	0	1	0	1	0	1	0	1
1042			min	.143	1	.004	2	0	1	0	1	0	1	0	1	0	1
1043		2	max	.232	2	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1044			min	.141	1	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1045		3	max	.231	2	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1046			min	.138	1	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1047		4	max	.23	2	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1048			min	.135	1	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1049		5	max	.23	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1050			min	.132	1	-.014	1	0	1	0	1	0	1	0	1	0	1
1051	M106	1	max	-.093	1	.014	1	0	1	0	1	0	1	0	1	0	1
1052			min	-.214	2	.004	2	0	1	0	1	0	1	0	1	0	1
1053		2	max	-.09	1	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1054			min	-.213	2	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1055		3	max	-.088	1	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1056			min	-.212	2	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1057		4	max	-.085	1	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1058			min	-.211	2	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1059		5	max	-.082	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1060			min	-.21	2	-.014	1	0	1	0	1	0	1	0	1	0	1
1061	M107	1	max	.232	2	.014	1	0	1	0	1	0	1	0	1	0	1
1062			min	.144	1	.004	2	0	1	0	1	0	1	0	1	0	1
1063		2	max	.231	2	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1064			min	.141	1	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1065		3	max	.23	2	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1066			min	.139	1	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1067		4	max	.23	2	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1068			min	.136	1	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1069		5	max	.229	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1070			min	.133	1	-.014	1	0	1	0	1	0	1	0	1	0	1
1071	M108	1	max	-.094	1	.014	1	0	1	0	1	0	1	0	1	0	1
1072			min	-.213	2	.004	2	0	1	0	1	0	1	0	1	0	1
1073		2	max	-.091	1	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1074			min	-.212	2	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1075		3	max	-.089	1	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1076			min	-.211	2	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1077		4	max	-.086	1	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1078			min	-.21	2	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1079		5	max	-.083	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1080			min	-.21	2	-.014	1	0	1	0	1	0	1	0	1	0	1
1081	M109	1	max	.148	2	.014	1	0	1	0	1	0	1	0	1	0	1
1082			min	.051	1	.004	2	0	1	0	1	0	1	0	1	0	1
1083		2	max	.149	2	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1084			min	.054	1	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1085		3	max	.15	2	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1086			min	.056	1	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1087		4	max	.151	2	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1088			min	.059	1	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1089		5	max	.152	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1090			min	.062	1	-.014	1	0	1	0	1	0	1	0	1	0	1
1091	M110	1	max	-.097	1	.014	1	0	1	0	1	0	1	0	1	0	1
1092			min	-.16	2	.004	2	0	1	0	1	0	1	0	1	0	1
1093		2	max	-.1	1	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1094			min	-.161	2	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1095		3	max	-.103	1	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1096			min	-.162	2	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1097		4	max	-.105	1	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1098			min	-.163	2	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1099		5	max	-.108	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1100			min	-.163	2	-.014	1	0	1	0	1	0	1	0	1	0	1
1101	M111	1	max	4.678	2	.014	1	0	1	0	1	0	1	0	1	0	1
1102			min	1.554	1	.004	2	0	1	0	1	0	1	0	1	0	1
1103		2	max	4.679	2	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1104			min	1.557	1	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1105		3	max	4.68	2	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1106			min	1.559	1	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1107		4	max	4.68	2	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1108			min	1.562	1	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1109		5	max	4.681	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1110			min	1.565	1	-.014	1	0	1	0	1	0	1	0	1	0	1
1111	M112	1	max	-1.595	1	.014	1	0	1	0	1	0	1	0	1	0	1
1112			min	-4.684	2	.004	2	0	1	0	1	0	1	0	1	0	1
1113		2	max	-1.597	1	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1114			min	-4.685	2	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1115		3	max	-1.6	1	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1116			min	-4.686	2	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1117		4	max	-1.603	1	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1118			min	-4.687	2	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1119		5	max	-1.605	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1120			min	-4.688	2	-.014	1	0	1	0	1	0	1	0	1	0	1
1121	M113	1	max	4.183	2	.014	1	0	1	0	1	0	1	0	1	0	1
1122			min	1.419	1	.004	2	0	1	0	1	0	1	0	1	0	1
1123		2	max	4.182	2	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1124			min	1.416	1	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1125		3	max	4.181	2	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1126			min	1.414	1	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1127		4	max	4.18	2	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1128			min	1.411	1	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1129		5	max	4.179	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1130			min	1.408	1	-.014	1	0	1	0	1	0	1	0	1	0	1
1131	M114	1	max	-1.362	1	.014	1	0	1	0	1	0	1	0	1	0	1
1132			min	-4.157	2	.004	2	0	1	0	1	0	1	0	1	0	1
1133		2	max	-1.36	1	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1134			min	-4.156	2	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1135		3	max	-1.357	1	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1136			min	-4.155	2	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1137		4	max	-1.354	1	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1138			min	-4.154	2	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1139		5	max	-1.351	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1140			min	-4.154	2	-.014	1	0	1	0	1	0	1	0	1	0	1
1141	M115	1	max	4.68	2	.014	1	0	1	0	1	0	1	0	1	0	1
1142			min	1.565	1	.004	2	0	1	0	1	0	1	0	1	0	1
1143		2	max	4.681	2	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1144			min	1.567	1	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1145		3	max	4.681	2	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1146			min	1.57	1	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1147		4	max	4.682	2	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1148			min	1.573	1	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1149		5	max	4.683	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1150			min	1.575	1	-.014	1	0	1	0	1	0	1	0	1	0	1
1151	M116	1	max	-1.607	1	.014	1	0	1	0	1	0	1	0	1	0	1
1152			min	-4.692	2	.004	2	0	1	0	1	0	1	0	1	0	1
1153		2	max	-1.61	1	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1154			min	-4.693	2	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1155		3	max	-1.612	1	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1156			min	-4.694	2	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1157		4	max	-1.615	1	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1158			min	-4.695	2	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1159		5	max	-1.618	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1160			min	-4.695	2	-.014	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1161	M117	1	max	4.178	2	.014	1	0	1	0	1	0	1	0	1	0	1
1162			min	1.418	1	.004	2	0	1	0	1	0	1	0	1	0	1
1163		2	max	4.177	2	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1164			min	1.415	1	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1165		3	max	4.176	2	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1166			min	1.412	1	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1167		4	max	4.175	2	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1168			min	1.41	1	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1169		5	max	4.174	2	-.004	2	0	1	0	1	0	1	0	1	0	1
1170			min	1.407	1	-.014	1	0	1	0	1	0	1	0	1	0	1
1171	M118	1	max	-1.364	1	.014	1	0	1	0	1	0	1	0	1	0	1
1172			min	-4.161	2	.004	2	0	1	0	1	0	1	0	1	0	1
1173		2	max	-1.361	1	.007	1	0	1	.046	1	-.014	2	.088	1	-.035	2
1174			min	-4.161	2	.002	2	0	1	.014	2	-.046	1	.028	2	-.111	1
1175		3	max	-1.359	1	0	1	0	1	.061	1	-.019	2	.118	1	-.047	2
1176			min	-4.16	2	0	1	0	1	.019	2	-.061	1	.037	2	-.148	1
1177		4	max	-1.356	1	-.002	2	0	1	.046	1	-.014	2	.088	1	-.035	2
1178			min	-4.159	2	-.007	1	0	1	.014	2	-.046	1	.028	2	-.111	1
1179		5	max	-1.353	1	-.004	2	0	1	0	1	0	1	0	1	0	1
1180			min	-4.158	2	-.014	1	0	1	0	1	0	1	0	1	0	1
1181	M119	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1182			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1183		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1184			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1185		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1186			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1187		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1188			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1189		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1190			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1191	M120	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1192			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1193		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1194			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1195		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1196			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1197		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1198			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1199		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1200			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1201	M121	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1202			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1203		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1204			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1205		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1206			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1207		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1208			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1209		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1210			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1211	M122	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1212			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1213		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1214			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1215		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1216			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1217		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1218			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1219		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1220			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1221	M123	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1222			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1223		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1224			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1225		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1226			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1227		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1228			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1229		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1230			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1231	M124	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1232			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1233		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1234			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1235		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1236			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1237		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1238			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1239		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1240			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1241	M125	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1242			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1243		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1244			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1245		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1246			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1247		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1248			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1249		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1250			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1251	M126	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1252			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1253		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1254			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1255		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1256			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1257		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1258			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1259		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1260			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1261	M127	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1262			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1263		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1264			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1265		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1266			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1267		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1268			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1269		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1270			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1271	M128	1	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1272			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1273		2	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1274			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Stresses (Continued)

	Member	Sec		Axial[ksi]	lc	y Shear...	lc	z Shear...	lc	y-Top[ksi]	lc	y-Bot[ksi]	lc	z-Top[ksi]	lc	z-Bot[ksi]	lc
1275		3	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1276			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1277		4	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1278			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1279		5	max	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1280			min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1281	M129	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1282			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1283		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1284			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1285		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1286			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1287		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1288			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1289		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1290			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1291	M130	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1292			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1293		2	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1294			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1295		3	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1296			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1297		4	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1298			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1
1299		5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
1300			min	0	2	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Joint Reactions

	Joint		X [k]	lc	Y [k]	lc	Z [k]	lc	MX [k-ft]	lc	MY [k-ft]	lc	MZ [k-ft]	lc
1	N99	max	.022	2	1.567	1	.694	2	1.499	2	.002	2	-.075	1
2		min	.011	1	.621	2	.354	1	.762	1	0	1	-.147	2
3	N98	max	-.011	1	8.973	1	5.266	2	63.592	2	0	1	-.074	1
4		min	-.022	2	3.512	2	1.902	1	20.143	1	-.002	2	-.145	2
5	Totals:	max	0	2	10.539	1	5.96	2						
6		min	0	1	4.133	2	2.256	1						

Envelope Joint Displacements

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
1	N1	max	0	1	0	2	0	1	0	1	0	1	0	1
2		min	0	2	0	1	0	2	0	2	0	2	0	2
3	N2	max	0	2	0	2	0	1	-7.568e-5	1	3.121e-6	2	-3.63e-5	1
4		min	0	1	0	1	-.001	2	-1.453e-4	2	1.595e-6	1	-7.456e-5	2
5	N3	max	0	2	0	2	0	1	-6.888e-5	1	3.94e-6	2	-3.058e-5	1
6		min	0	1	0	1	-.002	2	-1.313e-4	2	2.013e-6	1	-6.439e-5	2
7	N4	max	0	2	0	2	-.001	1	3.033e-7	2	8.576e-6	2	1.718e-5	2
8		min	0	1	0	1	-.003	2	0	1	4.429e-6	1	7.558e-6	1
9	N5	max	0	2	0	2	-.002	1	1.058e-5	2	6.585e-6	2	-3.214e-6	1
10		min	0	1	0	1	-.003	2	9.255e-6	1	3.483e-6	1	-3.448e-6	2
11	N6	max	0	2	0	2	0	1	7.697e-7	1	6.483e-6	2	-7.908e-6	1
12		min	0	1	0	1	-.001	2	-3.729e-6	2	3.262e-6	1	-2.19e-5	2
13	N7	max	0	2	0	2	0	1	7.874e-5	2	3.379e-6	2	4.121e-5	2
14		min	0	1	0	1	0	2	3.815e-5	1	1.663e-6	1	2.08e-5	1
15	N8	max	.001	2	-.001	1	-.002	1	-2.482e-4	1	-1.74e-6	1	-2.316e-5	1
16		min	0	1	-.002	2	-.007	2	-7.643e-4	2	-5.762e-6	2	-8.233e-5	2
17	N9	max	.003	2	-.003	1	-.009	1	-6.298e-4	1	-4.514e-6	1	-1.296e-4	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
18		min	.001	1	-.006	2	-.028	2	-1.884e-3	2	-1.577e-5	2	-3.784e-4	2
19	N10	max	.002	2	-.004	1	-.017	1	-2.565e-4	1	-1.025e-5	1	3.489e-4	2
20		min	0	1	-.009	2	-.051	2	-7.649e-4	2	-3.444e-5	2	1.263e-4	1
21	N11	max	0	1	-.006	1	-.027	1	-3.645e-4	1	-1.479e-5	1	-9.882e-6	1
22		min	-.001	2	-.014	2	-.082	2	-1.095e-3	2	-5.007e-5	2	-5.908e-5	2
23	N12	max	.002	2	-.008	1	-.04	1	-4.278e-4	1	-1.44e-5	1	-1.983e-5	1
24		min	0	1	-.018	2	-.124	2	-1.394e-3	2	-4.989e-5	2	-3.698e-5	2
25	N13	max	.001	2	-.01	1	-.055	1	-4.973e-4	1	-1.281e-5	1	-7.681e-6	1
26		min	0	1	-.021	2	-.171	2	-1.582e-3	2	-4.461e-5	2	-3.497e-5	2
27	N14	max	.003	2	-.011	1	-.071	1	-4.475e-4	1	-1.336e-5	1	8.015e-5	2
28		min	0	1	-.022	2	-.222	2	-1.448e-3	2	-4.701e-5	2	1.668e-5	1
29	N15	max	.003	2	-.011	1	-.084	1	-7.098e-4	1	-4.787e-6	1	-1.315e-4	1
30		min	.001	1	-.023	2	-.265	2	-2.366e-3	2	-1.737e-5	2	-4.176e-4	2
31	N16	max	.006	2	-.011	1	-.089	1	-4.703e-4	1	2.723e-7	1	-1.459e-6	1
32		min	.002	1	-.023	2	-.28	2	-1.509e-3	2	7.012e-8	2	-4.71e-6	2
33	N17	max	0	2	0	2	0	1	0	2	0	2	0	2
34		min	0	1	0	1	0	2	0	1	0	1	0	1
35	N18	max	0	2	0	2	0	1	-7.619e-5	1	-2.489e-7	1	-4.181e-5	1
36		min	0	1	0	1	-.001	2	-1.454e-4	2	-5.181e-7	2	-7.774e-5	2
37	N19	max	0	2	0	2	0	1	-6.975e-5	1	-3.143e-7	1	-3.771e-5	1
38		min	0	1	0	1	-.002	2	-1.315e-4	2	-6.541e-7	2	-6.822e-5	2
39	N20	max	0	2	0	2	-.001	1	4.933e-7	2	-6.967e-7	1	2.235e-5	2
40		min	0	1	0	1	-.003	2	4.176e-7	1	-1.403e-6	2	1.233e-5	1
41	N21	max	0	2	0	2	-.002	1	1.025e-5	2	-4.473e-8	1	3.432e-6	1
42		min	0	1	0	1	-.003	2	9.342e-6	1	-2.273e-7	2	-2.485e-6	2
43	N22	max	0	2	0	2	0	1	6.056e-7	1	1.663e-7	1	-1.364e-5	1
44		min	0	1	0	1	-.001	2	-4.115e-6	2	-6.577e-8	2	-2.611e-5	2
45	N23	max	0	2	0	2	0	1	7.921e-5	2	-2.579e-8	1	4.22e-5	2
46		min	0	1	0	1	0	2	3.805e-5	1	-2.705e-7	2	1.856e-5	1
47	N24	max	.003	2	-.001	1	-.003	1	-2.561e-4	1	6.535e-6	2	-5.082e-5	1
48		min	0	1	-.002	2	-.007	2	-7.68e-4	2	2.255e-6	1	-1.424e-4	2
49	N25	max	.004	2	-.003	1	-.009	1	-6.163e-4	1	1.966e-5	2	-1.179e-4	1
50		min	.001	1	-.006	2	-.028	2	-1.861e-3	2	6.556e-6	1	-3.545e-4	2
51	N26	max	.004	2	-.004	1	-.017	1	-2.719e-4	1	2.712e-5	2	1.729e-4	2
52		min	.001	1	-.009	2	-.051	2	-8.102e-4	2	8.747e-6	1	4.692e-5	1
53	N27	max	.007	2	-.006	1	-.028	1	-3.594e-4	1	3.553e-5	2	-6.805e-5	1
54		min	.003	1	-.014	2	-.083	2	-1.079e-3	2	1.094e-5	1	-1.759e-4	2
55	N28	max	.004	2	-.008	1	-.04	1	-4.283e-4	1	4.043e-5	2	1.022e-4	2
56		min	.002	1	-.018	2	-.123	2	-1.396e-3	2	1.236e-5	1	4.098e-5	1
57	N29	max	.004	2	-.01	1	-.055	1	-5.019e-4	1	3.281e-5	2	-1.845e-5	1
58		min	.002	1	-.021	2	-.171	2	-1.594e-3	2	1.003e-5	1	-4.853e-5	2
59	N30	max	.004	2	-.011	1	-.071	1	-4.451e-4	1	2.456e-5	2	1.463e-4	2
60		min	.001	1	-.022	2	-.222	2	-1.439e-3	2	7.49e-6	1	4.875e-5	1
61	N31	max	.003	2	-.011	1	-.084	1	-7.074e-4	1	7.108e-6	2	-1.03e-4	1
62		min	.001	1	-.023	2	-.265	2	-2.366e-3	2	2.334e-6	1	-3.97e-4	2
63	N32	max	.006	2	-.011	1	-.089	1	-4.703e-4	1	2.723e-7	1	-1.459e-6	1
64		min	.002	1	-.023	2	-.28	2	-1.509e-3	2	7.011e-8	2	-4.71e-6	2
65	N33	max	0	2	0	2	0	1	0	1	0	1	0	1
66		min	0	1	0	1	0	2	0	2	0	2	0	2
67	N34	max	0	2	0	2	0	1	-8.535e-5	1	1.423e-6	2	-4.272e-5	1
68		min	0	1	0	1	-.001	2	-1.713e-4	2	7.441e-7	1	-8.795e-5	2
69	N35	max	0	2	0	2	0	1	-8.612e-5	1	1.797e-6	2	-4.155e-5	1
70		min	0	1	0	1	-.002	2	-1.736e-4	2	9.395e-7	1	-8.685e-5	2
71	N36	max	0	2	0	2	-.001	1	1.148e-5	2	4.748e-6	2	2.813e-5	2
72		min	0	1	0	1	-.003	2	5.777e-6	1	2.449e-6	1	1.341e-5	1
73	N37	max	0	2	0	2	-.002	1	1.114e-5	2	4.008e-6	2	-7.803e-6	2
74		min	0	1	0	1	-.003	2	1.907e-6	1	2.123e-6	1	-8.475e-6	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
75	N38	max	0	2	0	2	0	1	1.391e-5	2	2.659e-6	2	-7.036e-6	1
76		min	0	1	0	1	-.001	2	4.381e-6	1	1.557e-6	1	-1.455e-5	2
77	N39	max	0	2	0	2	0	1	8.668e-5	2	9.095e-7	2	4.708e-5	2
78		min	0	1	0	1	0	2	4.64e-5	1	5.759e-7	1	2.691e-5	1
79	N40	max	.003	2	.002	2	-.003	1	-2.676e-4	1	-1.084e-6	1	-5.069e-5	1
80		min	0	1	0	1	-.007	2	-7.931e-4	2	-5.199e-6	2	-1.551e-4	2
81	N41	max	.004	2	.005	2	-.01	1	-6.157e-4	1	-4.357e-6	1	-1.19e-4	1
82		min	.001	1	.001	1	-.028	2	-1.857e-3	2	-1.707e-5	2	-3.532e-4	2
83	N42	max	.004	2	.008	2	-.017	1	-2.424e-4	1	-6.162e-6	1	1.913e-4	2
84		min	.001	1	.001	1	-.051	2	-7.931e-4	2	-2.442e-5	2	7.723e-5	1
85	N43	max	.006	2	.012	2	-.026	1	-3.369e-4	1	-8.849e-6	1	-4.852e-5	1
86		min	.001	1	.002	1	-.083	2	-1.101e-3	2	-3.269e-5	2	-1.828e-4	2
87	N44	max	.004	2	.016	2	-.039	1	-4.483e-4	1	-1.046e-5	1	9.857e-5	2
88		min	0	1	.002	1	-.123	2	-1.394e-3	2	-3.724e-5	2	2.283e-5	1
89	N45	max	.004	2	.018	2	-.054	1	-4.932e-4	1	-8.439e-6	1	-1.046e-5	1
90		min	.001	1	.002	1	-.171	2	-1.595e-3	2	-3.043e-5	2	-4.665e-5	2
91	N46	max	.003	2	.019	2	-.07	1	-4.559e-4	1	-6.151e-6	1	1.434e-4	2
92		min	0	1	.002	1	-.222	2	-1.437e-3	2	-2.254e-5	2	3.638e-5	1
93	N47	max	.003	2	.019	2	-.084	1	-7.252e-4	1	-1.631e-6	1	-1.263e-4	1
94		min	.001	1	.002	1	-.265	2	-2.353e-3	2	-6.608e-6	2	-3.973e-4	2
95	N48	max	.006	2	.019	2	-.089	1	-4.703e-4	1	2.723e-7	1	-1.459e-6	1
96		min	.002	1	.002	1	-.28	2	-1.509e-3	2	7.012e-8	2	-4.71e-6	2
97	N49	max	0	2	0	2	0	1	0	1	0	2	0	1
98		min	0	1	0	1	0	2	0	2	0	1	0	2
99	N50	max	0	2	0	2	0	1	-8.583e-5	1	-1.746e-6	1	-4.606e-5	1
100		min	0	1	0	1	-.001	2	-1.714e-4	2	-3.415e-6	2	-8.687e-5	2
101	N51	max	0	2	0	2	0	1	-8.69e-5	1	-2.204e-6	1	-4.612e-5	1
102		min	0	1	0	1	-.002	2	-1.737e-4	2	-4.312e-6	2	-8.565e-5	2
103	N52	max	0	2	0	2	-.001	1	1.14e-5	2	-4.037e-6	1	2.421e-5	2
104		min	0	1	0	1	-.003	2	6.065e-6	1	-7.988e-6	2	1.356e-5	1
105	N53	max	0	2	0	2	-.002	1	1.136e-5	2	-2.08e-6	1	-1.631e-6	1
106		min	0	1	0	1	-.003	2	2.277e-6	1	-4.333e-6	2	-6.462e-6	2
107	N54	max	0	2	0	2	0	1	1.432e-5	2	-2.238e-6	1	-9.124e-6	1
108		min	0	1	0	1	-.001	2	4.622e-6	1	-4.335e-6	2	-1.158e-5	2
109	N55	max	0	2	0	2	0	1	8.572e-5	2	-1.416e-6	1	4.406e-5	2
110		min	0	1	0	1	0	2	4.557e-5	1	-2.676e-6	2	2.263e-5	1
111	N56	max	.001	2	.002	2	-.003	1	-2.753e-4	1	6.048e-6	2	-4.287e-5	1
112		min	0	1	0	1	-.007	2	-7.96e-4	2	1.439e-6	1	-1.032e-4	2
113	N57	max	.004	2	.005	2	-.01	1	-6.151e-4	1	1.723e-5	2	-1.21e-4	1
114		min	.001	1	0	1	-.029	2	-1.875e-3	2	4.761e-6	1	-3.732e-4	2
115	N58	max	.002	2	.008	2	-.017	1	-2.295e-4	1	3.598e-5	2	3.447e-4	2
116		min	0	1	.001	1	-.051	2	-7.49e-4	2	1.051e-5	1	1.011e-4	1
117	N59	max	0	1	.012	2	-.026	1	-3.419e-4	1	5.128e-5	2	-4.166e-5	1
118		min	0	2	.002	1	-.082	2	-1.117e-3	2	1.547e-5	1	-8.63e-5	2
119	N60	max	.002	2	.016	2	-.04	1	-4.477e-4	1	5.074e-5	2	8.642e-7	1
120		min	.001	1	.002	1	-.124	2	-1.392e-3	2	1.521e-5	1	-2.561e-5	2
121	N61	max	.002	2	.018	2	-.054	1	-4.908e-4	1	4.526e-5	2	-1.448e-5	1
122		min	.001	1	.002	1	-.171	2	-1.584e-3	2	1.35e-5	1	-3.957e-5	2
123	N62	max	.003	2	.019	2	-.07	1	-4.592e-4	1	4.711e-5	2	8.82e-5	2
124		min	.001	1	.002	1	-.222	2	-1.446e-3	2	1.389e-5	1	3.168e-5	1
125	N63	max	.003	2	.019	2	-.084	1	-7.222e-4	1	1.732e-5	2	-1.03e-4	1
126		min	.001	1	.002	1	-.265	2	-2.35e-3	2	5.25e-6	1	-3.944e-4	2
127	N64	max	.006	2	.019	2	-.089	1	-4.703e-4	1	2.723e-7	1	-1.459e-6	1
128		min	.002	1	.002	1	-.28	2	-1.509e-3	2	7.011e-8	2	-4.71e-6	2
129	LC1	max	0	2	-.007	1	-.031	1	0	1	-1.467e-5	1	0	1
130		min	0	1	-.015	2	-.093	2	0	1	-5.001e-5	2	0	1
131	LC2	max	.008	2	-.007	1	-.031	1	0	1	3.707e-5	2	0	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
132		min	.003	1	-.015	2	-.094	2	0	1	1.139e-5	1	0	1
133	LC3	max	.008	2	.013	2	-.03	1	0	1	-9.356e-6	1	0	1
134		min	.002	1	.002	1	-.094	2	0	1	-3.412e-5	2	0	1
135	LC4	max	0	1	.013	2	-.03	1	0	1	5.111e-5	2	0	1
136		min	0	2	.002	1	-.094	2	0	1	1.539e-5	1	0	1
137	N69	max	0	2	0	2	-.001	1	6.649e-5	2	6.646e-6	2	2.046e-5	2
138		min	0	1	0	1	-.003	2	3.321e-5	1	3.515e-6	1	9.364e-6	1
139	N70	max	0	2	0	2	0	1	4.628e-5	2	6.253e-6	2	4.63e-6	2
140		min	0	1	0	1	-.001	2	2.215e-5	1	3.25e-6	1	2.931e-6	1
141	N71	max	0	2	0	2	-.002	1	-6.679e-8	2	-2.014e-6	1	-1.932e-6	2
142		min	0	1	0	1	-.003	2	-1.159e-7	1	-5.271e-6	2	-3.285e-6	1
143	N72	max	0	2	0	2	0	1	4.072e-6	2	2.066e-6	2	-3.088e-6	1
144		min	0	1	0	1	-.001	2	2.036e-6	1	1.861e-6	1	-9.249e-6	2
145	N73	max	0	2	0	2	-.002	1	3.422e-5	2	3.715e-6	2	-2.783e-6	1
146		min	0	1	0	1	-.003	2	1.818e-5	1	1.988e-6	1	-4.719e-6	2
147	N74	max	0	2	0	2	0	1	7.457e-5	2	3.542e-6	2	1.601e-5	2
148		min	0	1	0	1	-.002	2	3.982e-5	1	1.974e-6	1	1.005e-5	1
149	N75	max	0	2	0	2	-.001	1	6.639e-5	2	2.679e-7	2	1.549e-5	2
150		min	0	1	0	1	-.003	2	3.285e-5	1	2.193e-7	1	8.147e-6	1
151	N76	max	0	2	0	2	0	1	4.616e-5	2	1.461e-7	1	-2.328e-6	2
152		min	0	1	0	1	-.001	2	2.177e-5	1	-2.994e-8	2	-2.999e-6	1
153	N77	max	0	2	0	2	-.002	1	0	1	8.327e-6	2	1.804e-6	1
154		min	0	1	0	1	-.003	2	-1.628e-7	2	4.9e-6	1	-1.181e-6	2
155	N78	max	0	2	0	2	0	1	4.034e-6	2	1.289e-6	1	-6.521e-6	1
156		min	0	1	0	1	-.001	2	2.098e-6	1	9.472e-7	2	-9.697e-6	2
157	N79	max	0	2	0	2	-.002	1	3.45e-5	2	-1.805e-6	1	1.389e-6	1
158		min	0	1	0	1	-.003	2	1.801e-5	1	-3.811e-6	2	8.975e-7	2
159	N80	max	0	2	0	2	0	1	7.489e-5	2	-1.702e-6	1	2.223e-5	2
160		min	0	1	0	1	-.002	2	3.966e-5	1	-3.486e-6	2	1.082e-5	1
161	N81	max	.001	2	-.002	1	-.006	1	-4.601e-4	1	-3.665e-6	1	-6.862e-5	1
162		min	0	1	-.005	2	-.017	2	-1.391e-3	2	-1.251e-5	2	-1.959e-4	2
163	N82	max	.005	2	-.003	1	-.013	1	-4.903e-4	1	-5.363e-6	1	-1.703e-5	1
164		min	.002	1	-.007	2	-.04	2	-1.467e-3	2	-1.903e-5	2	-5.644e-5	2
165	N83	max	.002	2	0	2	-.003	1	-5.12e-5	1	4.316e-5	2	-4.372e-5	1
166		min	0	1	0	1	-.009	2	-1.604e-4	2	1.418e-5	1	-1.323e-4	2
167	N84	max	.003	2	0	2	-.016	1	-1.961e-4	1	6.623e-5	2	1.645e-4	2
168		min	.001	1	0	1	-.049	2	-6.179e-4	2	2.207e-5	1	6.408e-5	1
169	N85	max	.002	2	.004	2	-.006	1	-4.568e-4	1	-3.004e-6	1	-5.078e-5	1
170		min	0	1	0	1	-.017	2	-1.36e-3	2	-1.25e-5	2	-1.316e-4	2
171	N86	max	.006	2	.006	2	-.013	1	-4.762e-4	1	-5.709e-6	1	-2.916e-5	1
172		min	.002	1	.001	1	-.04	2	-1.459e-3	2	-2.163e-5	2	-1.044e-4	2
173	N87	max	.002	2	-.002	1	-.005	1	-4.348e-4	1	1.491e-5	2	-3.101e-5	1
174		min	0	1	-.005	2	-.017	2	-1.333e-3	2	5.101e-6	1	-1.121e-4	2
175	N88	max	.005	2	-.003	1	-.013	1	-4.953e-4	1	2.441e-5	2	-4.7e-5	1
176		min	.002	1	-.007	2	-.039	2	-1.49e-3	2	8.012e-6	1	-1.257e-4	2
177	N89	max	.002	2	0	2	-.003	1	-5.114e-5	1	-1.166e-5	1	-4.706e-5	1
178		min	0	1	0	1	-.009	2	-1.603e-4	2	-3.841e-5	2	-1.338e-4	2
179	N90	max	.003	2	0	2	-.016	1	-1.962e-4	1	-1.825e-5	1	1.557e-4	2
180		min	.001	1	0	1	-.049	2	-6.182e-4	2	-6.131e-5	2	4.219e-5	1
181	N91	max	.002	2	.004	2	-.006	1	-4.66e-4	1	1.368e-5	2	-6.286e-5	1
182		min	0	1	0	1	-.017	2	-1.411e-3	2	3.651e-6	1	-2.048e-4	2
183	N92	max	.005	2	.006	2	-.013	1	-4.663e-4	1	2.079e-5	2	-1.761e-5	1
184		min	.002	1	.001	1	-.04	2	-1.435e-3	2	5.87e-6	1	-4.284e-5	2
185	N93	max	0	2	0	2	0	1	0	1	0	1	0	1
186		min	0	1	0	1	0	2	0	2	0	2	0	2
187	N94	max	0	1	0	2	0	1	0	1	0	2	0	2
188		min	0	2	0	1	0	2	0	2	0	1	0	1

Envelope Joint Displacements (Continued)

	Joint		X [in]	lc	Y [in]	lc	Z [in]	lc	X Rotation...	lc	Y Rotation...	lc	Z Rotation ...	lc
189	N95	max	0	1	0	2	0	1	0	1	0	1	0	1
190		min	0	2	0	1	0	2	0	2	0	2	0	2
191	N96	max	0	2	0	2	0	1	0	1	0	2	0	2
192		min	0	1	0	1	0	2	0	2	0	1	0	1
193	N97	max	.006	2	-.002	2	-.089	1	-4.703e-4	1	2.723e-7	1	-1.459e-6	1
194		min	.002	1	-.005	1	-.28	2	-1.509e-3	2	7.011e-8	2	-4.71e-6	2
195	N98	max	0	2	0	2	0	1	0	1	0	2	0	2
196		min	0	1	0	1	0	2	0	2	0	1	0	1
197	N99	max	0	1	0	2	0	1	0	1	0	1	0	2
198		min	0	2	0	1	0	2	0	2	0	2	0	1
199	N100	max	0	2	0	1	0	1	0	1	0	1	0	2
200		min	0	1	0	2	0	2	0	2	0	2	0	1
201	N101	max	0	1	0	1	0	1	0	1	0	2	0	1
202		min	0	2	0	2	0	2	0	2	0	1	0	2
203	N102	max	0	1	0	2	0	1	0	1	0	1	0	1
204		min	0	2	0	1	0	2	0	2	0	2	0	2
205	N103	max	0	2	0	2	0	1	0	1	0	2	0	2
206		min	0	1	0	1	0	2	0	2	0	1	0	1

Envelope AISC ASD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	lc	She...	Loc[ft]	...	lc	Fa [...	Ft [...	...	Fb ...	...	C...	C...	AS...
1	M1	L3.5X3.5X5	.279	14.836	2	.087	16.185	z	2	20....	21.6	-...					H2-1
2	M2	L3.5X3.5X5	.137	1.741	2	.054	9.42	z	2	19....	21.6	-...					H2-1
3	M3	L3.5X3.5X5	.317	14.387	2	.093	14.387	z	2	20....	21.6	-...					H1-1
4	M4	L3.5X3.5X5	.179	0	2	.054	9.42	z	2	19....	21.6	-...					H1-1
5	M5	L3.5X3.5X5	.272	14.836	2	.092	14.387	z	2	20....	21.6	-...					H2-1
6	M6	L3.5X3.5X5	.137	1.741	2	.056	9.42	z	2	19....	21.6	-...					H2-1
7	M7	L3.5X3.5X5	.324	14.387	2	.086	16.635	z	2	20....	21.6	-...					H1-1
8	M8	L3.5X3.5X5	.178	0	2	.052	9.42	z	2	19....	21.6	-...					H1-1
9	M9	L1.5X1.5X3	.001	0	1	.002	0	y	1	13....	21.6	-...					H2-1
10	M10	L1.5X1.5X3	.004	0	2	.002	0	y	1	13....	21.6	-...					H1-1
11	M11	L1.5X1.5X3	.000	0	1	.002	0	z	2	13....	21.6	-...					H2-1
12	M12	L1.5X1.5X3	.004	0	2	.002	0	y	1	13....	21.6	-...					H1-1
13	M13	L1.5X1.5X3	.008	0	1	.002	0	y	1	5.596	21.6	-...					H1-1
14	M14	L1.5X1.5X3	.005	0	1	.002	0	y	1	5.596	21.6	-...					H1-1
15	M15	L1.5X1.5X3	.089	0	2	.002	0	y	1	5.596	21.6	-...					H1-1
16	M16	L1.5X1.5X3	.011	3.989	2	.002	0	y	1	5.596	21.6	-...					H2-1
17	M17	L1.5X1.5X3	.004	0	1	.004	0	z	2	5.596	21.6	-...					H1-1
18	M18	L1.5X1.5X3	.005	0	1	.004	0	z	2	5.596	21.6	-...					H1-1
19	M19	L1.5X1.5X3	.011	3.989	2	.002	0	y	1	5.596	21.6	-...					H2-1
20	M20	L1.5X1.5X3	.090	0	2	.002	0	y	1	5.596	21.6	-...					H1-1
21	M21	L1.5X1.5X3	.002	0	1	.002	0	y	1	5.596	21.6	-...					H1-1
22	M22	L1.5X1.5X3	.002	0	1	.002	0	y	1	5.596	21.6	-...					H2-1
23	M23	L1.5X1.5X3	.031	0	2	.002	0	y	1	5.596	21.6	-...					H1-1
24	M24	L1.5X1.5X3	.009	0	2	.002	0	y	1	5.596	21.6	-...					H1-1
25	M25	L1.5X1.5X3	.001	0	1	.004	0	z	2	5.596	21.6	-...					H1-1
26	M26	L1.5X1.5X3	.005	0	2	.004	0	z	2	5.596	21.6	-...					H1-1
27	M27	L1.5X1.5X3	.009	0	2	.002	0	y	1	5.596	21.6	-...					H1-1
28	M28	L1.5X1.5X3	.031	0	2	.002	3.989	y	1	5.596	21.6	-...					H1-1
29	M29	L1.5X1.5X3	.006	0	2	.004	0	z	2	5.596	21.6	-...					H1-1
30	M30	L1.5X1.5X3	.002	3.989	2	.004	0	z	2	5.596	21.6	-...					H2-1
31	M31	L1.5X1.5X3	.015	0	2	.001	1.156	y	1	13....	21.6	-...					H1-1
32	M32	L1.5X1.5X3	.015	0	2	.001	1.132	y	1	13....	21.6	-...					H1-1
33	M33	L1.5X1.5X3	.007	0	2	.002	0	y	1	5.596	21.6	-...					H1-1
34	M34	L1.5X1.5X3	.001	3.989	2	.002	0	y	1	5.596	21.6	-...					H2-1
35	M35	L1.5X1.5X3	.018	1.156	2	.001	1.156	y	1	13....	21.6	-...					H1-1

Envelope AISC ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	Ic	She...	Loc[ft]	...	Ic	Fa [...	Ft [...	...	Fb ...	...	C...	C...	AS...
36	M36	L1.5X1.5X3	.019	1.156	2	.001	1.156	y	1	13....	21.6	-...					H1-1
37	M37	L1.5X1.5X3	.002	0	1	.002	2.9	y	1	10....	21.6	-...					H1-1
38	M38	L1.5X1.5X3	.001	2.9	1	.002	2.9	y	1	10....	21.6	-...					H2-1
39	M39	L1.5X1.5X3	.033	0	2	.002	2.9	y	1	10....	21.6	-...					H1-1
40	M40	L1.5X1.5X3	.012	2.9	2	.002	0	y	1	10....	21.6	-...					H2-1
41	M41	L1.5X1.5X3	.002	0	2	.003	2.9	z	2	10....	21.6	-...					H1-1
42	M42	L1.5X1.5X3	.001	2.9	2	.003	2.9	z	2	10....	21.6	-...					H2-1
43	M43	L1.5X1.5X3	.033	0	2	.002	2.9	y	1	10....	21.6	-...					H1-1
44	M44	L1.5X1.5X3	.012	2.9	2	.002	0	y	1	10....	21.6	-...					H2-1
45	M45	L1.5X1.5X3	.259	1.156	2	.001	0	y	1	13....	21.6	-...					H1-1
46	M46	L1.5X1.5X3	.275	0	2	.001	0	y	1	13....	21.6	-...					H1-1
47	M47	L1.5X1.5X3	.240	0	2	.003	1.132	y	2	13....	21.6	-...					H1-1
48	M48	L1.5X1.5X3	.229	0	2	.002	1.156	y	2	13....	21.6	-...					H1-1
49	M49	L1.5X1.5X3	.081	0	2	.002	0	z	2	13....	21.6	-...					H1-1
50	M50	L1.5X1.5X3	.058	0	2	.002	0	y	1	13....	21.6	-...					H2-1
51	M51	L1.5X1.5X3	.127	0	2	.002	0	z	2	13....	21.6	-...					H1-1
52	M52	L1.5X1.5X3	.091	0	2	.002	0	y	1	13....	21.6	-...					H2-1
53	M53	L1.5X1.5X3	.102	0	2	.003	0	z	2	6.102	21.6	-...					H2-1
54	M54	L1.5X1.5X3	.128	3.82	2	.004	0	z	2	6.102	21.6	-...					H2-1
55	M55	L1.5X1.5X3	.009	0	2	.002	0	y	1	13....	21.6	-...					H1-1
56	M56	L1.5X1.5X3	.507	3.82	2	.002	0	y	1	6.102	21.6	-...					H1-1
57	M57	L1.5X1.5X3	.415	0	2	.002	0	y	1	6.102	21.6	-...					H1-1
58	M58	L1.5X1.5X3	.006	0	2	.002	0	y	1	13....	21.6	-...					H2-1
59	M59	L1.5X1.5X3	.135	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
60	M60	L1.5X1.5X3	.427	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
61	M61	L1.5X1.5X3	.020	3.532	2	.005	0	z	2	7.136	21.6	-...					H2-1
62	M62	L1.5X1.5X3	.013	3.532	2	.005	0	z	2	7.136	21.6	-...					H2-1
63	M63	L1.5X1.5X3	.128	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
64	M64	L1.5X1.5X3	.448	3.532	2	.002	3.532	y	1	7.136	21.6	-...					H1-1
65	M65	L1.5X1.5X3	.069	0	2	.002	0	y	1	7.136	21.6	-...					H1-1
66	M66	L1.5X1.5X3	.046	0	2	.002	0	y	1	7.136	21.6	-...					H1-1
67	M67	L1.5X1.5X3	.036	0	2	.005	0	z	2	7.136	21.6	-...					H1-1
68	M68	L1.5X1.5X3	.036	3.532	2	.005	0	z	2	7.136	21.6	-...					H1-1
69	M69	L1.5X1.5X3	.124	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
70	M70	L1.5X1.5X3	.412	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
71	M71	L1.5X1.5X3	.127	3.532	2	.002	3.532	y	1	7.136	21.6	-...					H2-1
72	M72	L1.5X1.5X3	.405	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
73	M73	L1.5X1.5X3	.013	3.532	2	.002	3.532	y	1	7.136	21.6	-...					H2-1
74	M74	L1.5X1.5X3	.014	0	2	.002	0	y	1	7.136	21.6	-...					H2-1
75	M75	L1.5X1.5X3	.116	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
76	M76	L1.5X1.5X3	.377	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
77	M77	L1.5X1.5X3	.022	0	2	.002	0	y	1	7.136	21.6	-...					H1-1
78	M78	L1.5X1.5X3	.018	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
79	M79	L1.5X1.5X3	.384	3.532	2	.002	3.532	y	1	7.136	21.6	-...					H1-1
80	M80	L1.5X1.5X3	.114	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
81	M81	L1.5X1.5X3	.005	3.532	2	.004	0	z	2	7.136	21.6	-...					H2-1
82	M82	L1.5X1.5X3	.007	0	2	.004	0	z	2	7.136	21.6	-...					H2-1
83	M83	L1.5X1.5X3	.005	3.532	2	.005	0	z	2	7.136	21.6	-...					H1-1
84	M84	L1.5X1.5X3	.005	0	2	.005	0	z	2	7.136	21.6	-...					H1-1
85	M85	L1.5X1.5X3	.096	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
86	M86	L1.5X1.5X3	.335	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
87	M87	L1.5X1.5X3	.002	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
88	M88	L1.5X1.5X3	.002	0	2	.002	3.532	y	1	7.136	21.6	-...					H2-1
89	M89	L1.5X1.5X3	.101	3.532	2	.002	0	y	1	7.136	21.6	-...					H2-1
90	M90	L1.5X1.5X3	.322	3.532	2	.002	0	y	1	7.136	21.6	-...					H1-1
91	M91	L1.5X1.5X3	.001	0	1	.006	3.171	z	2	8.853	21.6	-...					H1-1
92	M92	L1.5X1.5X3	.003	3.171	2	.006	3.171	z	2	8.853	21.6	-...					H1-1

Envelope AISC ASD Steel Code Checks (Continued)

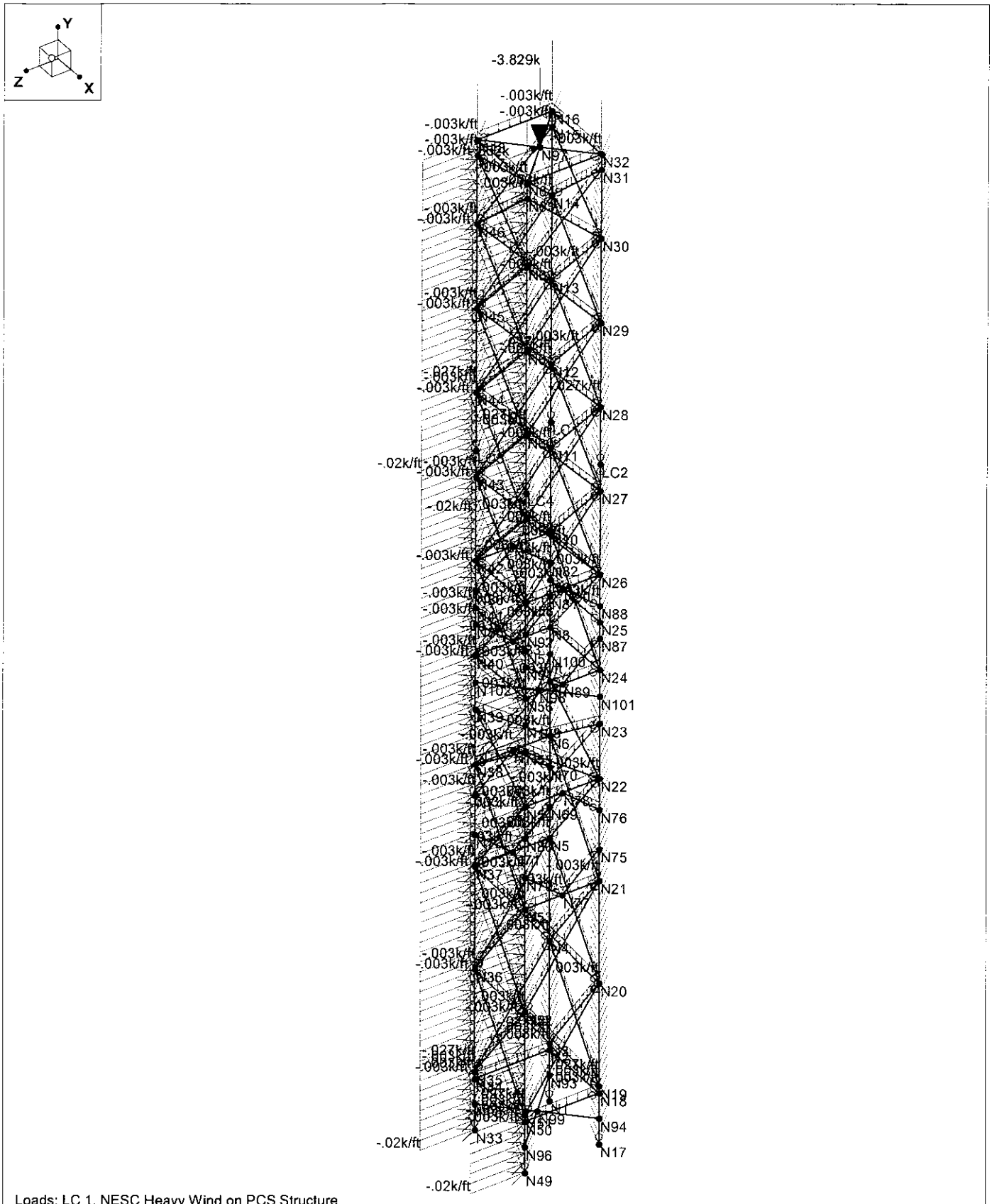
	Member	Shape	Code Check	Loc[ft]	lc	She...	Loc[ft]	...	lc	Fa [...	Ft [...	...	Fb ...	...	C...	C...	AS...
93	M93	L1.5X1.5X3	.107	3.171	2	.002	0	y	1	8.853	21.6	-...					H2-1
94	M94	L1.5X1.5X3	.276	3.171	2	.002	3.171	y	1	8.853	21.6	-...					H1-1
95	M95	L1.5X1.5X3	.002	3.171	1	.003	3.171	y	2	8.853	21.6	-...					H1-1
96	M96	L1.5X1.5X3	.002	0	1	.003	0	y	2	8.853	21.6	-...					H1-1
97	M97	L1.5X1.5X3	.104	3.171	2	.002	0	y	1	8.853	21.6	-...					H2-1
98	M98	L1.5X1.5X3	.284	3.171	2	.002	3.171	y	1	8.853	21.6	-...					H1-1
99	M99	C6X8.2	.001	1.156	1	.001	0	y	1	18....	21.6	...	21.6	1	.6	1	H1-3
100	M100	C6X8.2	.001	1.156	1	.001	0	y	1	18....	21.6	...	21.6	1	.6	1	H1-1
101	M101	C6X8.2	.001	1.156	1	.001	0	y	1	18....	21.6	...	21.6	1	.6	1	H2-1
102	M102	C6X8.2	.001	1.156	1	.001	2.313	y	1	18....	21.6	...	21.6	1	.6	1	H1-1
103	M103	L1.5X1.5X3	.008	0	2	.001	0	y	1	17....	21.6	-...					H2-1
104	M104	L1.5X1.5X3	.009	0	2	.001	1.529	y	1	17....	21.6	-...					H1-1
105	M105	L1.5X1.5X3	.014	0	2	.001	0	y	1	17....	21.6	-...					H1-1
106	M106	L1.5X1.5X3	.010	0	2	.001	1.529	y	1	17....	21.6	-...					H2-1
107	M107	L1.5X1.5X3	.014	0	2	.001	1.529	y	1	17....	21.6	-...					H1-1
108	M108	L1.5X1.5X3	.010	0	2	.001	1.529	y	1	17....	21.6	-...					H2-1
109	M109	L1.5X1.5X3	.009	1.529	2	.001	0	y	1	17....	21.6	-...					H1-1
110	M110	L1.5X1.5X3	.008	1.529	2	.001	1.529	y	1	17....	21.6	-...					H2-1
111	M111	L1.5X1.5X3	.273	1.529	2	.001	0	y	1	17....	21.6	-...					H1-1
112	M112	L1.5X1.5X3	.217	1.529	2	.001	1.529	y	1	17....	21.6	-...					H2-1
113	M113	L1.5X1.5X3	.244	0	2	.002	1.529	y	2	17....	21.6	-...					H1-1
114	M114	L1.5X1.5X3	.192	0	2	.002	1.529	y	2	17....	21.6	-...					H2-1
115	M115	L1.5X1.5X3	.273	1.529	2	.001	0	y	1	17....	21.6	-...					H1-1
116	M116	L1.5X1.5X3	.217	1.529	2	.001	1.529	y	1	17....	21.6	-...					H2-1
117	M117	L1.5X1.5X3	.243	0	2	.002	1.529	y	2	17....	21.6	-...					H1-1
118	M118	L1.5X1.5X3	.193	0	2	.001	1.529	y	2	17....	21.6	-...					H2-1

Joint Reactions (By Combination)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N99	.011	1.567	.354	.762	0	-.075
2	1	N98	-.011	8.973	1.902	20.143	0	-.074
3	1	Totals:	0	10.539	2.256			
4	1	COG (ft):	X: 1.156	Y: 21.714	Z: 1.156			

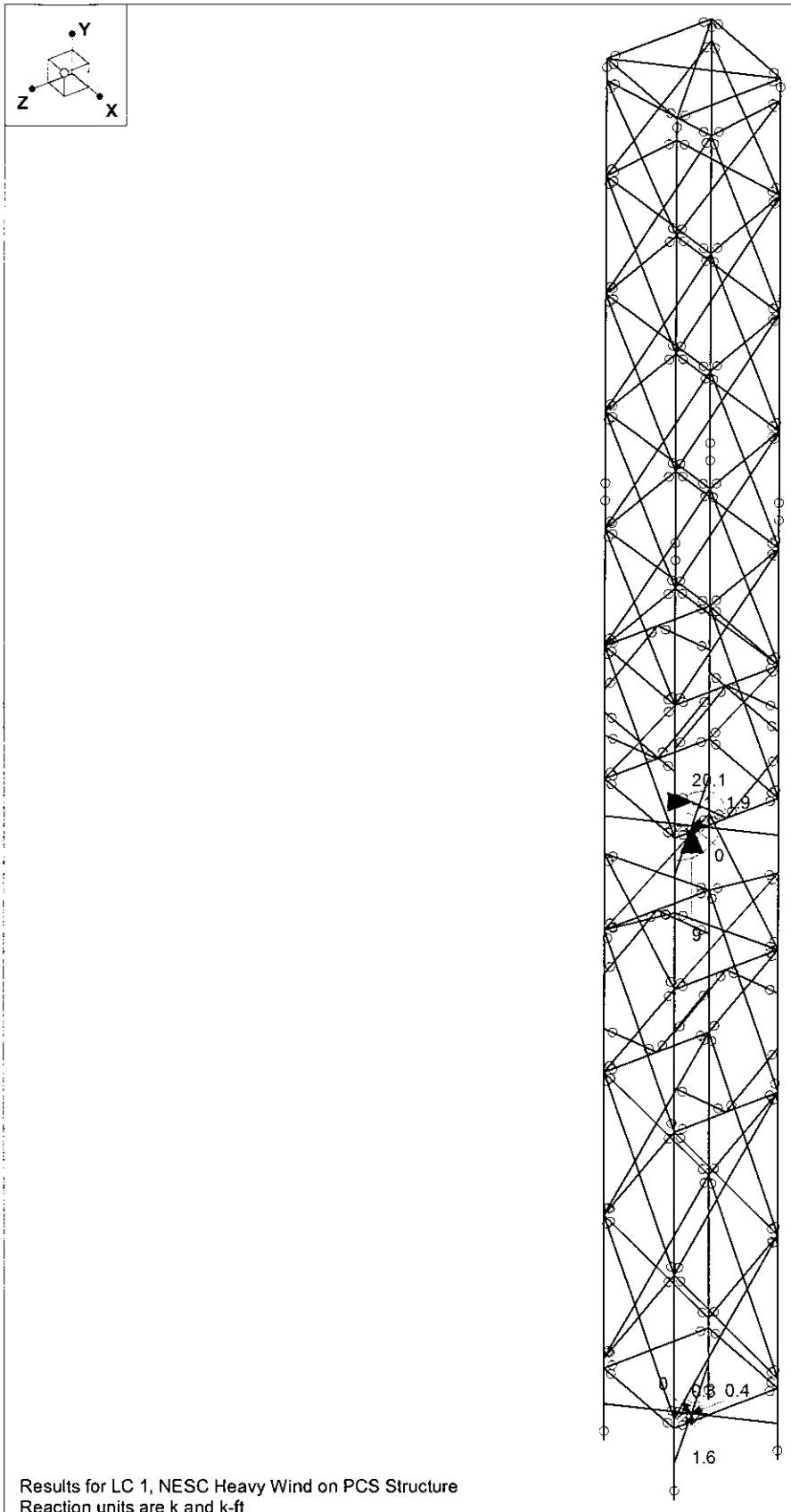
Joint Reactions (By Combination)

	LC	Joint Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	2	N99	.022	.621	.694	1.499	.002	-.147
2	2	N98	-.022	3.512	5.266	63.592	-.002	-.145
3	2	Totals:	0	4.133	5.96			
4	2	COG (ft):	X: 1.156	Y: 23.025	Z: 1.156			



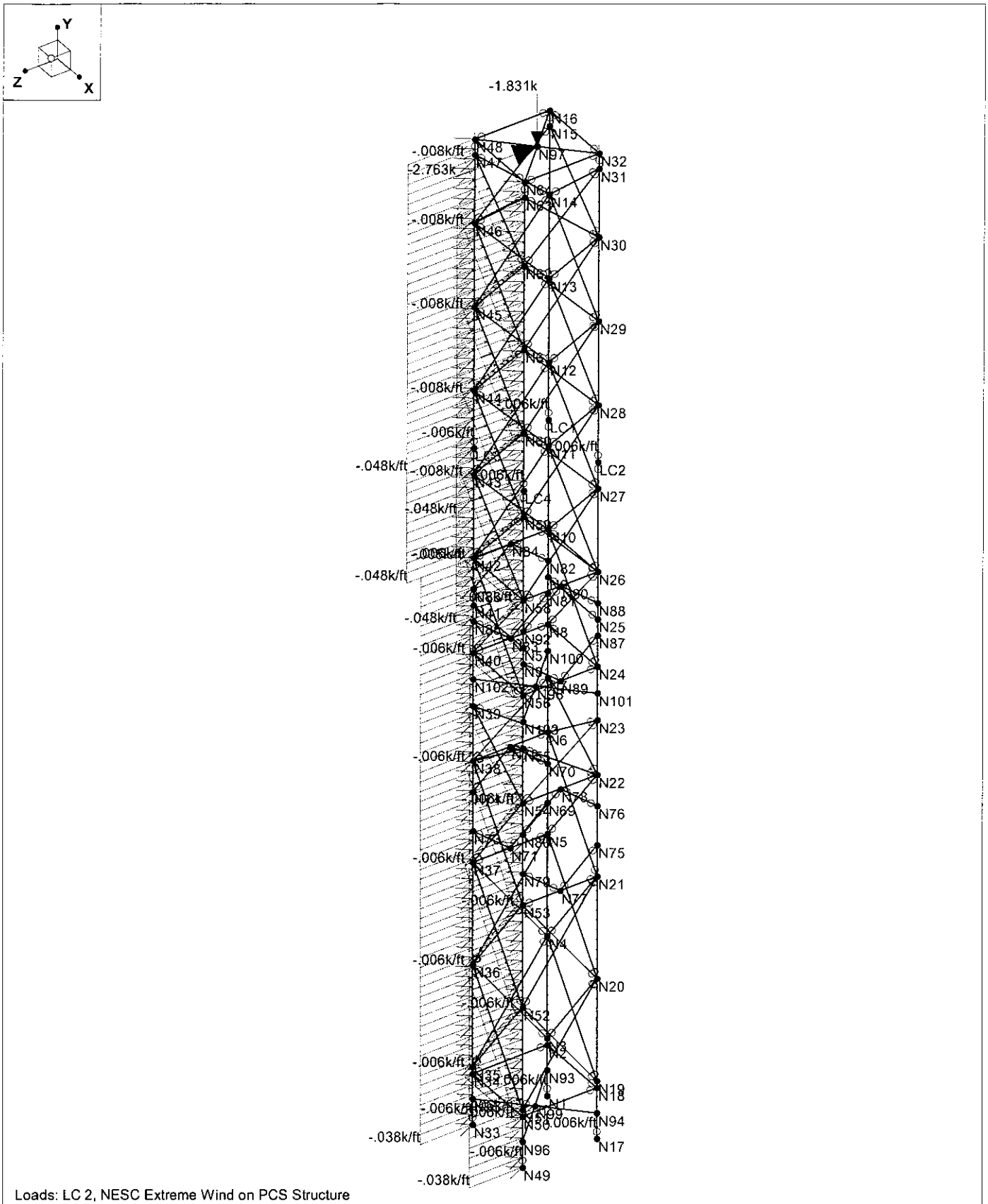
Loads: LC 1, NESC Heavy Wind on PCS Structure

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 27, 2009 at 3:32 PM
08174.CO.06	LC #1 Loads	NESC.r3d



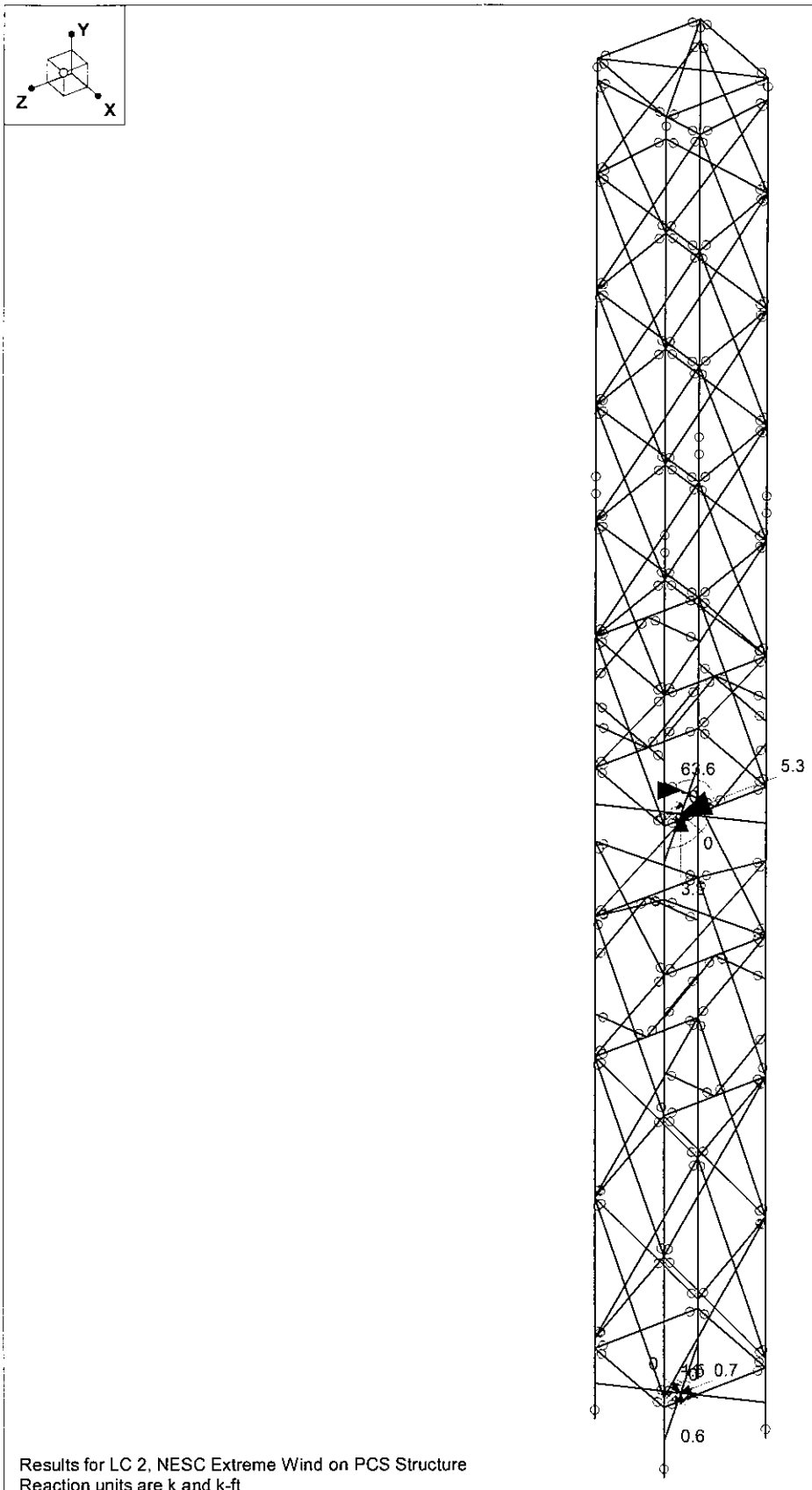
Results for LC 1, NESC Heavy Wind on PCS Structure
Reaction units are k and k-ft

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 27, 2009 at 3:35 PM
08174.CO.06	LC #1 Reactions	NESC.r3d



Loads: LC 2, NESC Extreme Wind on PCS Structure

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 27, 2009 at 3:33 PM
08174.CO.06	LC #2 Loads	NESC.r3d



Results for LC 2, NESC Extreme Wind on PCS Structure
Reaction units are k and k-ft

Natcomm, INC.	CL&P Pole # 1256	
tjl, cfc		Apr 27, 2009 at 3:37 PM
08174.CO.06	LC #2 Reactions	NESC.r3d

NATCOMM INC
CONSULTING ENGINEERS
p: 203.488.0330 f: 203.488.8587 e: mail@natcomm.com
63-2 N. Branford Rd., Branford, CT 06405

Subject:	Coax Cable on CL&P Pole #1256
Location:	Greenwich, CT
Rev. 0: 04/27/09	Prepared by: T.J.L Checked by: C.F.C. Job No. 08174.CO.06

Coax Cable on CL&P Pole

Distance Between Coax Cable Attach Points =

Coaxial Cable Span
(from Top of Pole Down w/ Top 20' on PCS Structure) =

$$Coax_{Span} := \begin{pmatrix} 10\cdot ft \\ 10\cdot ft \\ 10\cdot ft \\ 10\cdot ft \\ 10\cdot ft \\ 10\cdot ft \\ 15\cdot ft \end{pmatrix}$$ *(User Input)*

Diameter of Coax Cable =	$D_{coax} := 1.98\cdot in$	*(User Input)*
Weight of Coax Cable =	$W_{coax} := 1.04\cdot plf$	*(User Input)*
Number of Coax Cables =	$N_{coax} := 24$	*(User Input)*
Number of Projected Coax Cables =	$NP_{coax} := 6$	*(User Input)*
Extreme Wind Pressure =	$qz := 31.7\cdot psf$	*(User Input)*
Heavy Wind Pressure =	$p := 4\cdot psf$	*(User Input)*
Radial Ice Thickness =	$Ir := 0.5\cdot in$	*(User Input)*
Radial Ice Density =	$Id := 56\cdot pcf$	*(User Input)*
Shape Factor =	$Cd_{coax} := 1.45$	*(User Input)*
Overload Factor for NESC Heavy Wind Load =	$OF_{HW} := 2.5$	*(User Input)*
Overload Factor for NESC Extreme Wind Load =	$OF_{EW} := 1.0$	*(User Input)*
Overload Factor for NESC Heavy Vertical Load =	$OF_{HV} := 1.5$	*(User Input)*
Overload Factor for NESC Extreme Vertical Load =	$OF_{EV} := 1.0$	*(User Input)*
Wind Area with Ice =	$A_{ice} := \left(NP_{coax}\cdot D_{coax} + 2\cdot Ir\right) = 12.88\cdot in$	
Wind Area without Ice =	$A := \left(NP_{coax}\cdot D_{coax}\right) = 11.88\cdot in$	
Ice Area per Liner Ft =	$Ai_{coax} := \frac{\pi}{4}\cdot\left[\left(D_{coax} + 2\cdot Ir\right)^2 - D_{coax}^{\ 2}\right] = 0.027\,ft^2$	
Weight of Ice on All Coax Cables =	$W_{ice} := Ai_{coax}\cdot Id\cdot N_{coax} = 36.359\cdot plf$	

Heavy Vertical Load =

$$Heavy_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax} + W_{ice}\right) \cdot Coax_{Span} \cdot OF_{HV}\right]}$$

Heavy Transverse Load =

$$Heavy_{Trans} := \overrightarrow{\left(p \cdot A_{ice} \cdot Cd_{coax} \cdot Coax_{Span} \cdot OF_{HW}\right)}$$

$$Heavy_{Vert} = \begin{pmatrix} 920 \\ 920 \\ 920 \\ 920 \\ 920 \\ 920 \\ 1380 \end{pmatrix} lb \qquad Heavy_{Trans} = \begin{pmatrix} 156 \\ 156 \\ 156 \\ 156 \\ 156 \\ 156 \\ 233 \end{pmatrix} lb$$

Extreme Vertical Load =

$$Extreme_{Vert} := \overrightarrow{\left(N_{coax} \cdot W_{coax} \cdot Coax_{Span} \cdot OF_{EV}\right)}$$

Extreme Transverse Load =

$$Extreme_{Trans} := \overrightarrow{\left[\left(qz \cdot A \cdot Cd_{coax}\right) \cdot Coax_{Span} \cdot OF_{EW}\right]}$$

$$Extreme_{Vert} = \begin{pmatrix} 250 \\ 250 \\ 250 \\ 250 \\ 250 \\ 250 \\ 374 \end{pmatrix} lb \qquad Extreme_{Trans} = \begin{pmatrix} 455 \\ 455 \\ 455 \\ 455 \\ 455 \\ 455 \\ 683 \end{pmatrix} lb$$

Project Name : 95' Utility Pole CL&P #1256
Project Notes: T-Mobile Site Ref CT11-001B
Project File : J:\Jobs\0817400.W1 - HPC-T-Mobile\CO06 - CT11001-Greenwich Riverside\Engineering\Structural\Calcs\PLS-Pole\cl&p pole #1256.pol
Date run : 3:58:11 PM Monday, April 27, 2009
by : PLS-POLE Version 9.04
Licensed to : Natcomm

Successfully performed nonlinear analysis

The model has 0 warnings.

Loads from file: j:\jobs\0817400.wi - hpc-t-mobile\co06 - ct11001-greenwich riverside\engineering\structural\calcs\pls-pole\cl&p pole #1256.lca

*** Analysis Results:

Maximum element usage is 99.48% for Base Plate "1256" in load case "NESC Extreme"
Maximum insulator usage is 79.49% for Clamp "CL17" in load case "NESC Extreme"

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Vert. Moment (ft-k)	Bending Moment (ft-k)	Found. Usage %
NESC Heavy	1256:g	0.00	-25.40	52.48	25.40	2091.19	0.00	0.00	2091.19	0.00
NESC Extreme	1256:g	0.00	-33.19	24.85	33.19	2370.23	0.00	0.00	2370.23	0.00

Summary of Tip Deflections For All Load Cases:

Note: postive tip load results in positive rotation

Load Case	Joint Label	Long. Defl. (in)	Tran. Defl. (in)	Vert. Defl. (in)	Resultant Defl. (in)	Long. Rot. (deg)	Tran. Rot. (deg)	Twist (deg)
NESC Heavy	1256:t	-0.00	67.99	-2.69	68.04	-0.00	-5.91	-0.00
NESC Extreme	1256:t	-0.00	74.63	-3.21	74.69	-0.00	-6.59	-0.00

Tubes Summary:

Pole Label	Tube Num.	Weight (lbs)	Load Case	Maximum Usage %	Resultant Moment (ft-k)
1256	1	3643	NESC Extreme	75.53	780.28
1256	2	4874	NESC Extreme	93.44	1733.64
1256	3	3321	NESC Extreme	91.10	2370.23

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress

Summary of Steel Pole Usages:

Steel Pole Label	Maximum Usage %	Load Case	Segment Number	Weight (lbs)
1256	93.44	NESC Extreme	26	13397.1

Summary of Tubular Davit Usages:

Tubular Davit Label	Maximum Usage %	Load Case	Segment Number	Weight (lbs)
ARM1L	4.51	NESC Extreme	1	46.2
ARM1R	21.36	NESC Heavy	1	56.0
ARM2L	13.62	NESC Heavy	1	56.0
ARM2R	70.47	NESC Heavy	1	117.7
ARM3L	13.97	NESC Heavy	1	56.0
ARM3R	71.02	NESC Heavy	1	117.7
ARM4L	14.55	NESC Heavy	1	56.0
ARM4R	71.92	NESC Heavy	1	117.7

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	89.57	1256	Steel Pole
NESC Extreme	99.48	1256	Base Plate

Summary of Steel Pole Usages by Load Case:

Load Case	Maximum Usage %	Steel Pole Label	Segment Number
NESC Heavy	89.57	1256	26
NESC Extreme	93.44	1256	26

Summary of Base Plate Usages by Load Case:

Load Case	Pole Label	Bend Line #	Length (in)	Vertical Load (kips)	X Moment (ft-k)	Y Moment (ft-k)	Bending Stress (ksi)	Bolt Moment Sum (ft-k)	# Bolts Acting On Bend Line	Max Bolt Load For Bend Line (kips)	Minimum Plate Thickness (in)	Usage %
NESC Heavy	1256	8	26.800	52.482	2091.185	0.000	48.987	192.598	4	131.317	3.067	89.07
NESC Extreme	1256	8	26.800	24.849	2370.229	0.000	54.717	215.123	4	146.675	3.242	99.48

Summary of Tubular Davit Usages by Load Case:

Load Case	Maximum Usage %	Tubular Davit Label	Segment Number
NESC Heavy	71.92	ARM4R	1
NESC Extreme	33.54	ARM4R	1

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
CL1	Clamp	2.54	NESC Heavy	0.0
CL2	Clamp	2.54	NESC Heavy	0.0
CL3	Clamp	4.15	NESC Heavy	0.0
CL4	Clamp	4.15	NESC Heavy	0.0
CL5	Clamp	4.15	NESC Heavy	0.0
CL6	Clamp	4.15	NESC Heavy	0.0
CL7	Clamp	4.15	NESC Heavy	0.0
CL8	Clamp	4.15	NESC Heavy	0.0
CL9	Clamp	1.17	NESC Heavy	0.0
CL10	Clamp	1.17	NESC Heavy	0.0
CL11	Clamp	1.17	NESC Heavy	0.0
CL12	Clamp	1.17	NESC Heavy	0.0
CL13	Clamp	1.17	NESC Heavy	0.0
CL14	Clamp	1.17	NESC Heavy	0.0
CL15	Clamp	1.75	NESC Heavy	0.0
CL17	Clamp	79.49	NESC Extreme	0.0
CL18	Clamp	11.47	NESC Heavy	0.0
CL19	Clamp	79.49	NESC Extreme	0.0
CL20	Clamp	1.87	NESC Extreme	0.0
CL21	Clamp	2.01	NESC Heavy	0.0
CL22	Clamp	1.87	NESC Extreme	0.0

*** Weight of structure (lbs):
Weight of Tubular Davit Arms: 623.4
Weight of Steel Poles: 13397.1
Total: 14020.5

*** End of Report

```
*************************************************************************
*                                                                       *
*                              PLS-POLE                                 *
*                    POLE AND FRAME ANALYSIS AND DESIGN                 *
*                Copyright Power Line Systems, Inc. 1989-2006           *
*                                                                       *
*************************************************************************
```

Project Name : 95' Utility Pole CL&P #1256
Project Notes: T-Mobile Site Ref CT11-001B
Project File : J:\Jobs\0817400.W1 - HPC-T-Mobile\CO06 - CT11001-Greenwich Riverside\Engineering\Structural\Calcs\PLS-Pole\cl&p pole #1256.pol
Date run : 3:58:09 PM Monday, April 27, 2009
by : PLS-POLE Version 9.04
Licensed to : Natcomm

Successfully performed nonlinear analysis

The model has 0 warnings.

Modeling options:
  Offset Arms from Pole/Mast: Yes
  Offset Braces from Pole/Mast: Yes
  Offset Guys from Pole/Mast: Yes
  Offset Posts from Pole/Mast: Yes
  Offset Strains from Pole/Mast: Yes
  Use Alternate Convergence Process: No
  Steel poles checked with ASCE/SEI 48-05

Default Modulus of Elasticity for Steel = 29000.00 (ksi)
Default Weight Density for Steel = 490.00 (lbs/ft^3)

Steel Pole Properties:

Steel Pole Property Label	Stock Number	Length (ft)	Default Embedded Length (ft)	Base Plate	Shape	Tip Diameter (in)	Base Diameter (in)	Taper (in/ft)	Default Drag Coef.	Tubes	Modulus of Elasticity Override (ksi)	Weight Density Override (lbs/ft^3)	Shape At Base	Strength Check Type	Distance From Tip (ft)	Ultimate Trans. Load (kips)	Ultimate Long. Load (kips)
CL&P1256	1256	95.00	0	Yes	8F	18.85	36.2	0	1.3	3 tubes	0	0		Calculated	0.000	0.0000	0.0000

Steel Tubes Properties:

Pole Property	Tube No.	Length (ft)	Thickness (in)	Lap Length (ft)	Lap Gap (in)	Yield Stress (ksi)	Moment Cap. Override (ft-k)	Tube Weight (lbs)	Calculated Taper (in/ft)	Tube Top Diameter (in)	Tube Bot. Diameter (in)	1.5x Diam. Lap Length (ft)
CL&P1256	1	45	0.3125	3.667	0.000	65.000	0.000	3643	0.19711	18.85	27.72	3.39

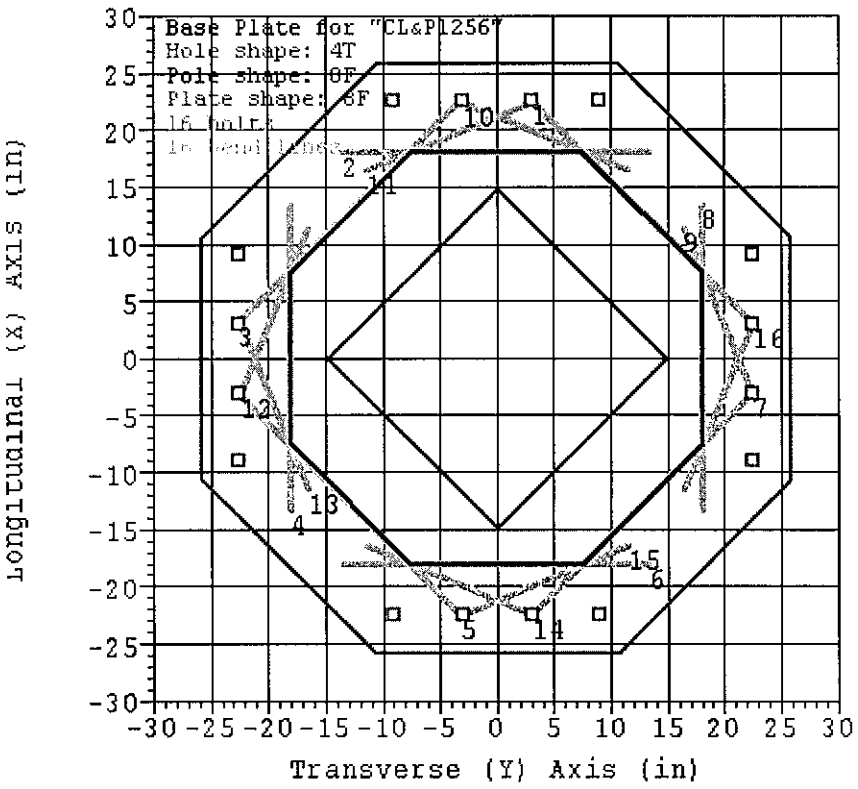
CL&P1256	2	38.667	0.375	4.917	0.000	65.000	0.000	4874	0.19711	26.37	33.99	4.16
CL&P1256	3	19.917	0.4375	0.000	0.000	65.000	0.000	3321	0.19711	32.27	36.20	0.00

Base Plate Properties:

Pole Property	Plate Diam. (in)	Plate Shape	Plate Thick. (in)	Plate Weight (lbs)	Bend Line Length Override (in)	Hole Diam. (in)	Hole Shape	Steel Density (lbs/ft^3)	Steel Yield Stress (ksi)	Bolt Diam. (in)	Bolt Pattern Diam. (in)	Num. Of Bolts	Bolt Cage X Inertia (in^4)	Bolt Cage Y Inertia (in^4)
CL&P1256	51.500	8F	3.250	1560	0.000	21.000	4T	490.00	55.000	2.250	45.000	16	17533.79	17533.79

Base Plate Bolt Coordinates for Property "CL&P1256":

Bolt X Coord.	Bolt Y Coord.	Bolt Angle (deg)
0.133	1	0
0.4	1	0
1	0.4	0
1	0.133	0



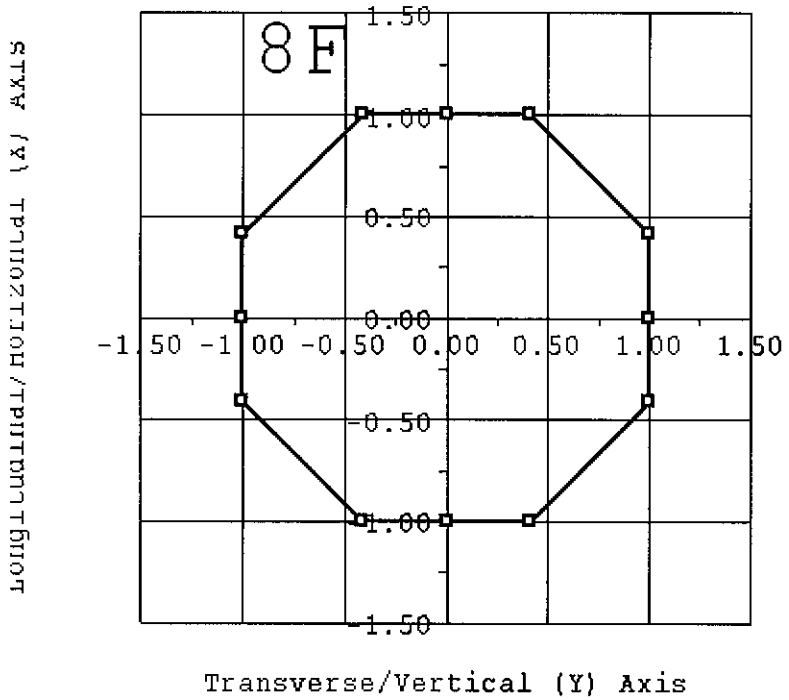
Steel Pole Connectivity:

Pole Label	Tip Joint	Base Joint	X of Base (ft)	Y of Base (ft)	Z of Base (ft)	Inclin. About X (deg)	Inclin. About Y (deg)	Property Set	Attach. Labels	Base Connect	Embed % Override	Embed C. Override (ft)

1256	0	0	0	0	0	CL&P1256 17 labels		0.00		0

Relative Attachment Labels for Steel Pole "1256":

Joint Label	Distance From Origin/Top Joint (ft)	Global Z of Attach (ft)
1256:ARM1	1.75	0.00
1256:ARM2	8.75	0.00
1256:ARM3	20.75	0.00
1256:ARM4	32.75	0.00
1256:WVGD1	25.00	0.00
1256:WVGD2	35.00	0.00
1256:WVGD3	45.00	0.00
1256:WVGD4	55.00	0.00
1256:WVGD5	65.00	0.00
1256:WVGD6	75.00	0.00
1256:WVGD7	85.00	0.00
1256:TCTop	2.37	0.00
1256:TCMid	2.87	0.00
1256:TCBot	3.37	0.00
1256:BCTop	15.74	0.00
1256:BCMid	16.24	0.00
1256:BCBot	16.74	0.00



Pole Steel Properties:

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Outer Diam. (in)	Area (in^2)	T-Moment Inertia (in^4)	L-Moment Inertia (in^4)	D/t	W/t Max.	Fy (ksi)	Fa Min. (ksi)	ASCE Cap Trans. (ft-k)	ASCE Cap Long. (ft-k)

1256	1256:t	1256:t	Ori	0.00	18.85	19.20	871.97	871.97	0.00	20.8	65.00	65.00	501.13	501.13
1256	1256:ARM1	1256:ARM1	End	1.75	19.19	19.55	921.55	921.55	0.00	21.3	65.00	65.00	520.11	520.11
1256	1256:ARM1	1256:ARM1	Ori	1.75	19.19	19.55	921.55	921.55	0.00	21.3	65.00	65.00	520.11	520.11
1256	1256:TCTop	1256:TCTop	End	2.37	19.32	19.68	939.55	939.55	0.00	21.5	65.00	65.00	526.91	526.91
1256	1256:TCTop	1256:TCTop	Ori	2.37	19.32	19.68	939.55	939.55	0.00	21.5	65.00	65.00	526.92	526.92
1256	1256:TCMid	1256:TCMid	End	2.87	19.42	19.78	954.24	954.24	0.00	21.6	65.00	65.00	532.44	532.44
1256	1256:TCMid	1256:TCMid	Ori	2.87	19.42	19.78	954.24	954.24	0.00	21.6	65.00	65.00	532.44	532.44
1256	1256:TCBot	1256:TCBot	End	3.37	19.51	19.88	969.09	969.09	0.00	21.7	65.00	65.00	537.99	537.99
1256	1256:TCBot	1256:TCBot	Ori	3.37	19.51	19.88	969.09	969.09	0.00	21.7	65.00	65.00	537.99	537.99
1256	#1256:0	Tube 1	End	6.06	20.04	20.43	1051.59	1051.59	0.00	22.4	65.00	65.00	568.35	568.35
1256	#1256:0	Tube 1	Ori	6.06	20.04	20.43	1051.59	1051.59	0.00	22.4	65.00	65.00	568.35	568.35
1256	1256:ARM2	1256:ARM2	End	8.75	20.57	20.98	1138.64	1138.64	0.00	23.1	65.00	65.00	599.54	599.54
1256	1256:ARM2	1256:ARM2	Ori	8.75	20.57	20.98	1138.64	1138.64	0.00	23.1	65.00	65.00	599.54	599.54
1256	#1256:1	Tube 1	End	12.24	21.26	21.70	1258.75	1258.75	0.00	24.0	65.00	65.00	641.31	641.31
1256	#1256:1	Tube 1	Ori	12.24	21.26	21.70	1258.75	1258.75	0.00	24.0	65.00	65.00	641.31	641.31
1256	1256:BCTop	1256:BCTop	End	15.74	21.95	22.41	1387.02	1387.02	0.00	25.0	65.00	65.00	684.48	684.48
1256	1256:BCTop	1256:BCTop	Ori	15.74	21.95	22.41	1387.03	1387.03	0.00	25.0	65.00	65.00	684.48	684.48
1256	1256:BCMid	1256:BCMid	End	16.24	22.05	22.51	1406.06	1406.06	0.00	25.1	65.00	65.00	690.78	690.78
1256	1256:BCMid	1256:BCMid	Ori	16.24	22.05	22.51	1406.06	1406.06	0.00	25.1	65.00	65.00	690.78	690.78
1256	1256:BCBot	1256:BCBot	End	16.74	22.15	22.61	1425.27	1425.27	0.00	25.2	65.00	65.00	697.10	697.10
1256	1256:BCBot	1256:BCBot	Ori	16.74	22.15	22.61	1425.27	1425.27	0.00	25.2	65.00	65.00	697.10	697.10
1256	1256:ARM3	1256:ARM3	End	20.75	22.94	23.43	1585.68	1585.68	0.00	26.3	65.00	65.00	748.83	748.83
1256	1256:ARM3	1256:ARM3	Ori	20.75	22.94	23.43	1585.68	1585.68	0.00	26.3	65.00	65.00	748.83	748.83
1256	1256:WVGD1	1256:WVGD1	End	25.00	23.78	24.30	1768.36	1768.36	0.00	27.4	65.00	65.00	805.68	805.68
1256	1256:WVGD1	1256:WVGD1	Ori	25.00	23.78	24.30	1768.36	1768.36	0.00	27.4	65.00	65.00	805.68	805.68
1256	#1256:2	Tube 1	End	28.88	24.54	25.09	1946.70	1946.70	0.00	28.4	65.00	65.00	859.33	859.33
1256	#1256:2	Tube 1	Ori	28.88	24.54	25.09	1946.70	1946.70	0.00	28.4	65.00	65.00	859.33	859.33
1256	1256:ARM4	1256:ARM4	End	32.75	25.31	25.88	2136.65	2136.65	0.00	29.4	65.00	65.00	914.71	914.71
1256	1256:ARM4	1256:ARM4	Ori	32.75	25.31	25.88	2136.65	2136.65	0.00	29.4	65.00	65.00	914.71	914.71
1256	1256:WVGD2	1256:WVGD2	End	35.00	25.75	26.34	2252.41	2252.41	0.00	30.0	65.00	65.00	947.66	947.66
1256	1256:WVGD2	1256:WVGD2	Ori	35.00	25.75	26.34	2252.41	2252.41	0.00	30.0	65.00	65.00	947.66	947.66
1256	#1256:3	Tube 1	End	38.17	26.37	26.99	2422.30	2422.30	0.00	30.8	65.00	65.00	995.02	995.02
1256	#1256:3	Tube 1	Ori	38.17	26.37	26.99	2422.30	2422.30	0.00	30.8	65.00	65.00	995.02	995.02
1256	#1256:4	SpliceT	End	41.33	27.00	27.63	2600.52	2600.52	0.00	31.6	65.00	65.00	1043.54	1043.54
1256	#1256:4	SpliceT	Ori	41.33	27.00	27.63	2600.52	2600.52	0.00	31.6	65.00	65.00	1043.54	1043.54
1256	1256:WVGD3	1256:WVGD3	End	45.00	27.09	33.20	3133.21	3133.21	0.00	25.8	65.00	65.00	1252.75	1252.75
1256	1256:WVGD3	1256:WVGD3	Ori	45.00	27.09	33.20	3133.21	3133.21	0.00	25.8	65.00	65.00	1252.75	1252.75
1256	#1256:5	Tube 2	End	50.00	28.08	34.43	3492.80	3492.80	0.00	26.9	65.00	65.00	1347.52	1347.52
1256	#1256:5	Tube 2	Ori	50.00	28.08	34.43	3492.80	3492.80	0.00	26.9	65.00	65.00	1347.52	1347.52
1256	1256:WVGD4	1256:WVGD4	End	55.00	29.07	35.65	3878.90	3878.90	0.00	28.0	65.00	65.00	1445.73	1445.73
1256	1256:WVGD4	1256:WVGD4	Ori	55.00	29.07	35.65	3878.90	3878.90	0.00	28.0	65.00	65.00	1445.73	1445.73
1256	#1256:6	Tube 2	End	60.00	30.05	36.88	4292.46	4292.46	0.00	29.1	65.00	65.00	1547.41	1547.41
1256	#1256:6	Tube 2	Ori	60.00	30.05	36.88	4292.46	4292.46	0.00	29.1	65.00	65.00	1547.41	1547.41
1256	1256:WVGD5	1256:WVGD5	End	65.00	31.04	38.10	4734.42	4734.42	0.00	30.1	65.00	65.00	1652.54	1652.54
1256	1256:WVGD5	1256:WVGD5	Ori	65.00	31.04	38.10	4734.42	4734.42	0.00	30.1	65.00	65.00	1652.54	1652.54
1256	#1256:7	Tube 2	End	70.00	32.02	39.33	5205.72	5205.72	0.00	31.2	65.00	65.00	1761.12	1761.12
1256	#1256:7	Tube 2	Ori	70.00	32.02	39.33	5205.72	5205.72	0.00	31.2	65.00	65.00	1761.12	1761.12
1256	1256:WVGD6	1256:WVGD6	End	75.00	33.01	40.55	5707.31	5707.31	0.00	32.3	65.00	64.88	1869.82	1869.82
1256	1256:WVGD6	1256:WVGD6	Ori	75.00	33.01	40.55	5707.31	5707.31	0.00	32.3	65.00	64.88	1869.82	1869.82
1256	#1256:8	SpliceT	End	75.08	33.02	40.57	5715.90	5715.90	0.00	32.3	65.00	64.87	1871.26	1871.26
1256	#1256:8	SpliceT	Ori	75.08	33.02	40.57	5715.90	5715.90	0.00	32.3	65.00	64.87	1871.26	1871.26
1256	#1256:9	SpliceB	End	80.00	33.24	47.56	6765.31	6765.31	0.00	27.3	65.00	65.00	2204.67	2204.67
1256	#1256:9	SpliceB	Ori	80.00	33.24	47.56	6765.31	6765.31	0.00	27.3	65.00	65.00	2204.67	2204.67
1256	1256:WVGD7	1256:WVGD7	End	85.00	34.23	48.99	7393.45	7393.45	0.00	28.3	65.00	65.00	2340.00	2340.00
1256	1256:WVGD7	1256:WVGD7	Ori	85.00	34.23	48.99	7393.45	7393.45	0.00	28.3	65.00	65.00	2340.00	2340.00
1256	#1256:10	Tube 3	End	90.00	35.21	50.42	8059.31	8059.31	0.00	29.2	65.00	65.00	2479.35	2479.35
1256	#1256:10	Tube 3	Ori	90.00	35.21	50.42	8059.31	8059.31	0.00	29.2	65.00	65.00	2479.35	2479.35
1256	1256:g	1256:g	End	95.00	36.20	51.85	8764.00	8764.00	0.00	30.1	65.00	65.00	2622.74	2622.74

Tubular Davit Properties:

Davit Property Label	Stock Number	Steel Shape	Thickness (in)	Base Diameter or Depth (in)	Tip Diameter or Depth (in)	Taper (in/ft)	Drag Coef.	Modulus of Elasticity (ksi)	Geometry	Strength Check Type	Vertical Capacity (lbs)	Tension Capacity (lbs)	Compres. Capacity (lbs)	Long. Capacity (lbs)	Yield Stress (ksi)	Weight Density Override (lbs/ft^3)	Steel Shape At End
ARM1		8T	0.1875	6.875	3.5	0	1.3	29000	1 point	Calculated	0	0	0	0	65	0	
ARM2		8T	0.1875	6.875	3.5	0	1.3	29000	1 point	Calculated	0	0	0	0	65	0	
ARM3		8T	0.1875	6.875	3.5	0	1.3	29000	1 point	Calculated	0	0	0	0	65	0	

Intermediate Joints for Davit Property "ARM1":

Joint	Horz.	Vert.

Joint Label	Horz. Offset (ft)	Vert. Offset (ft)
End	4	-1.75

Intermediate Joints for Davit Property "ARM2":

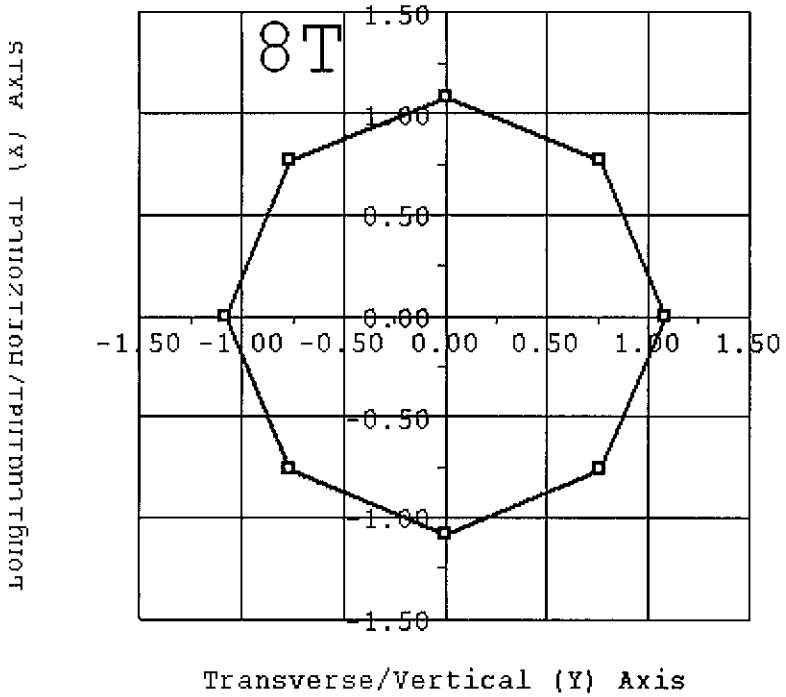
Joint Label	Horz. Offset (ft)	Vert. Offset (ft)
End	5	-1.75

Intermediate Joints for Davit Property "ARM3":

Joint Label	Horz. Offset (ft)	Vert. Offset (ft)
END	11	-1.75

Tubular Davit Arm Connectivity:

Davit Label	Attach Label	Davit Property Set	Azimuth (deg)
ARM1L	1256:ARM1	ARM1	180
ARM1R	1256:ARM1	ARM2	0
ARM2L	1256:ARM2	ARM2	180
ARM2R	1256:ARM2	ARM3	0
ARM3L	1256:ARM3	ARM2	180
ARM3R	1256:ARM3	ARM3	0
ARM4L	1256:ARM4	ARM2	180
ARM4R	1256:ARM4	ARM3	0



Tubular Davit Arm Steel Properties:

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Outer Diam. (in)	Area (in^2)	V-Moment Inertia (in^4)	H-Moment Inertia (in^4)	D/t	W/t Max.	Fy (ksi)	Fa Min. (ksi)	ASCE Cap V-Mom. (ft-k)	ASCE Cap H-Mom. (ft-k)
ARM1L	ARM1L:O	Origin	0.00	6.88	4.16	24.58	24.58	0.00	11.0	65.00	65.00	35.78	35.78
ARM1L	ARM1L:End	End	4.37	3.50	2.06	2.99	2.99	0.00	3.6	65.00	65.00	8.56	8.56
ARM1R	ARM1R:O	Origin	0.00	6.88	4.16	24.58	24.58	0.00	11.0	65.00	65.00	35.78	35.78
ARM1R	#ARM1R:O	End	2.65	5.19	3.11	10.28	10.28	0.00	7.3	65.00	65.00	19.83	19.83
ARM1R	#ARM1R:O	Origin	2.65	5.19	3.11	10.28	10.28	0.00	7.3	65.00	65.00	19.83	19.83
ARM1R	ARM1R:End	End	5.30	3.50	2.06	2.99	2.99	0.00	3.6	65.00	65.00	8.56	8.56
ARM2L	ARM2L:O	Origin	0.00	6.88	4.16	24.58	24.58	0.00	11.0	65.00	65.00	35.78	35.78
ARM2L	#ARM2L:O	End	2.65	5.19	3.11	10.28	10.28	0.00	7.3	65.00	65.00	19.83	19.83
ARM2L	#ARM2L:O	Origin	2.65	5.19	3.11	10.28	10.28	0.00	7.3	65.00	65.00	19.83	19.83
ARM2L	ARM2L:End	End	5.30	3.50	2.06	2.99	2.99	0.00	3.6	65.00	65.00	8.56	8.56
ARM2R	ARM2R:O	Origin	0.00	6.88	4.16	24.58	24.58	0.00	11.0	65.00	65.00	35.78	35.78
ARM2R	#ARM2R:O	End	5.00	5.36	3.21	11.38	11.38	0.00	7.7	65.00	65.00	21.24	21.24
ARM2R	#ARM2R:O	Origin	5.00	5.36	3.21	11.38	11.38	0.00	7.7	65.00	65.00	21.24	21.24
ARM2R	#ARM2R:1	End	8.07	4.43	2.64	6.28	6.28	0.00	5.6	65.00	65.00	14.19	14.19
ARM2R	#ARM2R:1	Origin	8.07	4.43	2.64	6.28	6.28	0.00	5.6	65.00	65.00	14.19	14.19
ARM2R	ARM2R:END	End	11.14	3.50	2.06	2.99	2.99	0.00	3.6	65.00	65.00	8.56	8.56
ARM3L	ARM3L:O	Origin	0.00	6.88	4.16	24.58	24.58	0.00	11.0	65.00	65.00	35.78	35.78
ARM3L	#ARM3L:O	End	2.65	5.19	3.11	10.28	10.28	0.00	7.3	65.00	65.00	19.83	19.83
ARM3L	#ARM3L:O	Origin	2.65	5.19	3.11	10.28	10.28	0.00	7.3	65.00	65.00	19.83	19.83
ARM3L	ARM3L:End	End	5.30	3.50	2.06	2.99	2.99	0.00	3.6	65.00	65.00	8.56	8.56
ARM3R	ARM3R:O	Origin	0.00	6.88	4.16	24.58	24.58	0.00	11.0	65.00	65.00	35.78	35.78

ARM3R	#ARM3R:0	End	5.00	5.36	3.21	11.38	11.38	0.00	7.7	65.00	65.00	21.24	21.24
ARM3R	#ARM3R:0	Origin	5.00	5.36	3.21	11.38	11.38	0.00	7.7	65.00	65.00	21.24	21.24
ARM3R	#ARM3R:1	End	8.07	4.43	2.64	6.28	6.28	0.00	5.6	65.00	65.00	14.19	14.19
ARM3R	#ARM3R:1	Origin	8.07	4.43	2.64	6.28	6.28	0.00	5.6	65.00	65.00	14.19	14.19
ARM3R	ARM3R:END	End	11.14	3.50	2.06	2.99	2.99	0.00	3.6	65.00	65.00	8.56	8.56
ARM4L	ARM4L:0	Origin	0.00	6.88	4.16	24.58	24.58	0.00	11.0	65.00	65.00	35.78	35.78
ARM4L	#ARM4L:0	End	2.65	5.19	3.11	10.28	10.28	0.00	7.3	65.00	65.00	19.83	19.83
ARM4L	#ARM4L:0	Origin	2.65	5.19	3.11	10.28	10.28	0.00	7.3	65.00	65.00	19.83	19.83
ARM4L	ARM4L:End	End	5.30	3.50	2.06	2.99	2.99	0.00	3.6	65.00	65.00	8.56	8.56
ARM4R	ARM4R:0	Origin	0.00	6.88	4.16	24.58	24.58	0.00	11.0	65.00	65.00	35.78	35.78
ARM4R	#ARM4R:0	End	5.00	5.36	3.21	11.38	11.38	0.00	7.7	65.00	65.00	21.24	21.24
ARM4R	#ARM4R:0	Origin	5.00	5.36	3.21	11.38	11.38	0.00	7.7	65.00	65.00	21.24	21.24
ARM4R	#ARM4R:1	End	8.07	4.43	2.64	6.28	6.28	0.00	5.6	65.00	65.00	14.19	14.19
ARM4R	#ARM4R:1	Origin	8.07	4.43	2.64	6.28	6.28	0.00	5.6	65.00	65.00	14.19	14.19
ARM4R	ARM4R:END	End	11.14	3.50	2.06	2.99	2.99	0.00	3.6	65.00	65.00	8.56	8.56

*** Insulator Data

Clamp Properties:

Label	Stock Number	Holding Capacity (lbs)
clamp		8e+004

Clamp Insulator Connectivity:

Clamp Label	Structure And Tip Attach	Property Set	Min. Required Vertical Load (uplift) (lbs)
CL1	ARM1L:End	clamp	No Limit
CL2	ARM1R:End	clamp	No Limit
CL3	ARM2L:End	clamp	No Limit
CL4	ARM2R:END	clamp	No Limit
CL5	ARM3L:End	clamp	No Limit
CL6	ARM3R:END	clamp	No Limit
CL7	ARM4L:End	clamp	No Limit
CL8	ARM4R:END	clamp	No Limit
CL9	1256:WVGD1	clamp	No Limit
CL10	1256:WVGD2	clamp	No Limit
CL11	1256:WVGD3	clamp	No Limit
CL12	1256:WVGD4	clamp	No Limit
CL13	1256:WVGD5	clamp	No Limit
CL14	1256:WVGD6	clamp	No Limit
CL15	1256:WVGD7	clamp	No Limit
CL17	1256:TCTop	clamp	No Limit
CL18	1256:TCMid	clamp	No Limit
CL19	1256:TCBot	clamp	No Limit
CL20	1256:BCTop	clamp	No Limit
CL21	1256:BCMid	clamp	No Limit
CL22	1256:BCBot	clamp	No Limit

*** Loads Data

Loads from file: j:\jobs\0817400.wi - hpc-t-mobile\co06 - ct11001-greenwich riverside\engineering\structural\calcs\pls-pole\cl&p pole #1256.lca

Insulator dead and wind loads are already included in the point loads printed below.

Loading Method Parameters:

Structure Height Summary (used for calculating wind/ice adjust with height):

Z of ground for wind height adjust	0.00	(ft) and structure Z coordinate that will be put on the centerline ground profile in PLS-CADD.
Ground elevation shift	0.00	(ft)
Z of ground with shift	0.00	(ft)
Z of structure top (highest joint)	95.00	(ft)
Structure height	95.00	(ft)
Structure height above ground	95.00	(ft)

Vector Load Cases:

Load Case Description	Dead Load Factor	Wind Area Factor	SF for Steel Poles Tubular Arms and Towers	SF for Wood Poles	SF for Conc. Ult.	SF for Conc. First Crack	SF for Conc. Zero Tens.	SF for Guys and Cables	SF for Non Tubular Arms	SF for Braces	SF for Insuls.	SF For Found.	Point Loads	Wind/Ice Model	Trans. Wind Pressure (psf)	Longit. Wind Pressure (psf)	Ice Thick. (in)	Ice Density (lbs/ft^3)	Pole Deflection Check	Pole Deflection Limit
NESC Heavy	1.5000	2.5000	1.00000	0.6500	1.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	21 loads	Wind on All	4	0	0.500	56.000	No Limit	0
NESC Extreme	1.0000	1.0000	1.00000	0.6500	1.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	21 loads	Wind on All	31.7	0	0.000	0.000	No Limit	0

Point Loads for Load Case "NESC Heavy":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
ARM1L:End	989	1778	0	
ARM1R:End	989	1778	0	
ARM2L:End	2089	2578	0	
ARM2R:END	2089	2578	0	
ARM3L:End	2089	2578	0	
ARM3R:END	2089	2578	0	
ARM4L:End	2089	2578	0	
ARM4R:END	2089	2578	0	
1256:WVGD1	920	156	0	
1256:WVGD2	920	156	0	
1256:WVGD3	920	156	0	
1256:WVGD4	920	156	0	
1256:WVGD5	920	156	0	
1256:WVGD6	920	156	0	
1256:WVGD7	1380	233	0	
1256:TCTop	0	20143	0	
1256:TCMid	8973	1902	0	
1256:TCBot	0	-20143	0	
1256:BCTop	0	762	0	
1256:BCMid	1567	354	0	
1256:BCBot	0	-762	0	

Detailed Pole Loading Data for Load Case "NESC Heavy":

Notes: Does not include loads from equipment, arms, guys, braces, etc. or user input loads.
Wind load is calculated for the undeformed shape of a pole.

Pole Label	Top Joint	Bottom Joint	Section Top Z	Section Bottom Z	Section Average Elevation	Outer Diameter	Reynolds Number	Drag Coef.	Adjusted Wind Pressure	Adjusted Ice Thickness	Pole Vert. Load	Pole Wind Load	Pole Vertical Load	Pole Ice Wind Load	Tran. Wind Load	Long. Wind Load

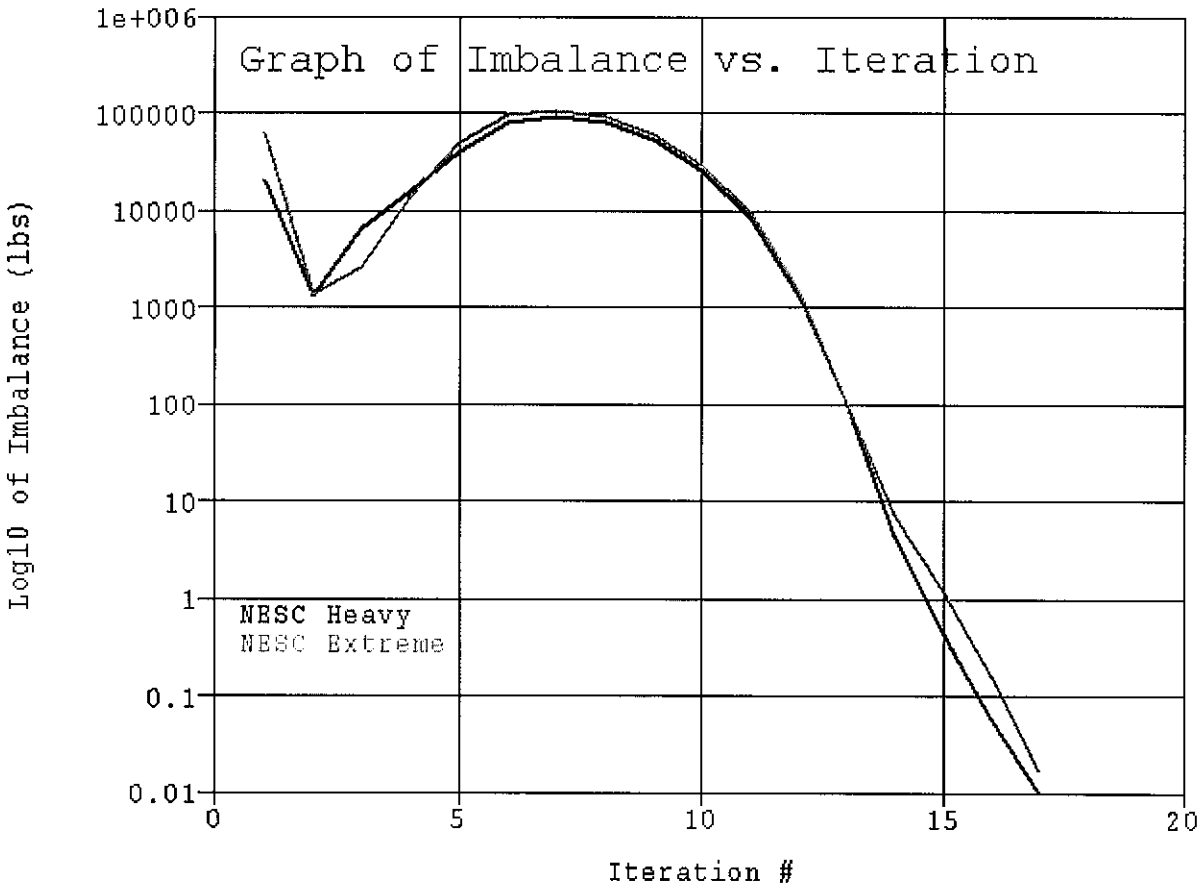
			(ft)	(ft)	(ft)	(in)		(psf)	(in)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)	(lbs)
1256	1256:t	1256:ARM1	95.00	93.25	94.13	19.022	9.01e+005	1.300	10.00	0.50	173.06	36.06	21.45	1.90	37.96	0.00
1256	1256:ARM1	1256:TCTop	93.25	92.63	92.94	19.256	9.12e+005	1.300	10.00	0.50	62.08	12.93	7.69	0.67	13.61	0.00
1256	1256:TCTop	1256:TCMid	92.63	92.13	92.38	19.366	9.17e+005	1.300	10.00	0.50	50.36	10.49	6.24	0.54	11.03	0.00
1256	1256:TCMid	1256:TCBot	92.13	91.63	91.88	19.465	9.22e+005	1.300	10.00	0.50	50.62	10.54	6.27	0.54	11.09	0.00
1256	1256:TCBot		91.63	88.94	90.28	19.779	9.36e+005	1.300	10.00	0.50	276.78	57.64	34.28	2.91	60.55	0.00
1256		1256:ARM2	88.94	86.25	87.60	20.310	9.62e+005	1.300	10.00	0.50	284.32	59.19	35.20	2.91	62.10	0.00
1256	1256:ARM2		86.25	82.76	84.50	20.919	9.9e+005	1.300	10.00	0.50	380.66	79.20	47.11	3.79	82.99	0.00
1256		1256:BCTop	82.76	79.26	81.01	21.608	1.02e+006	1.300	10.00	0.50	393.39	81.81	48.66	3.79	85.60	0.00
1256	1256:BCTop	1256:BCMid	79.26	78.76	79.01	22.002	1.04e+006	1.300	10.00	0.50	57.32	11.92	7.09	0.54	12.46	0.00
1256	1256:BCMid	1256:BCBot	78.76	78.26	78.51	22.100	1.05e+006	1.300	10.00	0.50	57.58	11.97	7.12	0.54	12.51	0.00
1256	1256:BCBot	1256:ARM3	78.26	74.25	76.25	22.545	1.07e+006	1.300	10.00	0.50	471.21	97.94	58.25	4.34	102.28	0.00
1256	1256:ARM3	1256:WVGD1	74.25	70.00	72.13	23.359	1.11e+006	1.300	10.00	0.50	517.70	107.55	63.97	4.60	112.15	0.00
1256	1256:WVGD1		70.00	66.13	68.06	24.160	1.14e+006	1.300	10.00	0.50	488.42	101.42	60.32	4.20	105.62	0.00
1256		1256:ARM4	66.13	62.25	64.19	24.923	1.18e+006	1.300	10.00	0.50	504.06	104.63	62.23	4.20	108.82	0.00
1256	1256:ARM4	1256:WVGD2	62.25	60.00	61.12	25.527	1.21e+006	1.300	10.00	0.50	299.86	62.22	37.01	2.44	64.66	0.00
1256	1256:WVGD2		60.00	56.83	58.42	26.061	1.23e+006	1.300	10.00	0.50	430.94	89.40	53.17	3.43	92.83	0.00
1256			56.83	53.67	55.25	26.685	1.26e+006	1.300	10.00	0.50	441.38	91.54	54.44	3.43	94.97	0.00
1256		1256:WVGD3	53.67	50.00	51.83	27.046	1.28e+006	1.300	10.00	0.50	1137.26	107.44	63.90	3.97	111.41	0.00
1256	1256:WVGD3		50.00	45.00	47.50	27.587	1.31e+006	1.300	10.00	0.50	863.12	149.43	88.88	5.42	154.85	0.00
1256		1256:WVGD4	45.00	40.00	42.50	28.573	1.35e+006	1.300	10.00	0.50	894.25	154.77	92.05	5.42	160.19	0.00
1256	1256:WVGD4		40.00	35.00	37.50	29.559	1.4e+006	1.300	10.00	0.50	925.50	160.11	95.23	5.42	165.53	0.00
1256		1256:WVGD5	35.00	30.00	32.50	30.544	1.45e+006	1.300	10.00	0.50	956.76	165.45	98.40	5.42	170.86	0.00
1256	1256:WVGD5		30.00	25.00	27.50	31.530	1.49e+006	1.300	10.00	0.50	988.01	170.79	101.58	5.42	176.20	0.00
1256		1256:WVGD6	25.00	20.00	22.50	32.515	1.54e+006	1.300	10.00	0.50	1019.27	176.12	104.75	5.42	181.54	0.00
1256	1256:WVGD6		20.00	19.92	19.96	33.016	1.56e+006	1.300	10.00	0.50	17.18	2.97	1.77	0.09	3.06	0.00
1256			19.92	15.00	17.46	33.134	1.57e+006	1.300	10.00	0.50	2209.33	176.50	104.97	5.33	181.82	0.00
1256		1256:WVGD7	15.00	10.00	12.50	33.736	1.6e+006	1.300	10.00	0.50	1232.19	182.74	108.69	5.42	188.15	0.00
1256	1256:WVGD7		10.00	5.00	7.50	34.722	1.64e+006	1.300	10.00	0.50	1268.47	188.08	111.86	5.42	193.49	0.00
1256		1256:g	5.00	0.00	2.50	35.707	1.69e+006	1.300	10.00	0.50	1304.93	193.41	115.04	5.42	198.83	0.00

Point Loads for Load Case "NESC Extreme":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
ARM1L:End	287	1175	0	
ARM1R:End	287	1175	0	
ARM2L:End	889	2076	0	
ARM2R:END	889	2076	0	
ARM3L:End	889	2076	0	
ARM3R:END	889	2076	0	
ARM4L:End	889	2076	0	
ARM4R:END	889	2076	0	
1256:WVGD1	250	455	0	
1256:WVGD2	250	455	0	
1256:WVGD3	250	455	0	
1256:WVGD4	250	455	0	
1256:WVGD5	250	455	0	
1256:WVGD6	250	455	0	
1256:WVGD7	374	683	0	
1256:TCTop	0	63592	0	
1256:TCMid	3512	5266	0	
1256:TCBot	0	-63592	0	
1256:BCTop	0	1499	0	
1256:BCMid	621	694	0	
1256:BCBot	0	-1499	0	

*** Analysis Results:

Maximum element usage is 99.48% for Base Plate "1256" in load case "NESC Extreme"
Maximum insulator usage is 79.49% for Clamp "CL17" in load case "NESC Extreme"



*** Analysis Results for Load Case No. 1 "NESC Heavy" - Number of iterations in SAPS 17

Equilibrium Joint Positions and Rotations for Load Case "NESC Heavy":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
1256:g	0	0	0	0.0000	0.0000	0.0000	0	0	0
1256:t	-3.708e-014	5.665	-0.2239	-5.9081	-0.0000	-0.0000	-3.708e-014	5.665	94.78
1256:ARM1	-3.555e-014	5.485	-0.2146	-5.9081	-0.0000	-0.0000	-3.555e-014	5.485	93.04
1256:TCTop	-3.501e-014	5.421	-0.2113	-5.9065	-0.0000	-0.0000	-3.501e-014	5.421	92.42
1256:TCMid	-3.458e-014	5.37	-0.2086	-5.9041	-0.0000	-0.0000	-3.458e-014	5.37	91.92
1256:TCBot	-3.414e-014	5.319	-0.2059	-5.8999	-0.0000	-0.0000	-3.414e-014	5.319	91.42
1256:ARM2	-2.954e-014	4.769	-0.1777	-5.8228	-0.0000	-0.0000	-2.954e-014	4.769	86.07
1256:BCTop	-2.482e-014	4.071	-0.1426	-5.6098	-0.0000	-0.0000	-2.482e-014	4.071	79.12
1256:BCMid	-2.443e-014	4.022	-0.1402	-5.5911	-0.0000	-0.0000	-2.443e-014	4.022	78.62
1256:BCBot	-2.404e-014	3.973	-0.1378	-5.5720	-0.0000	-0.0000	-2.404e-014	3.973	78.12
1256:ARM3	-2.102e-014	3.59	-0.1193	-5.4054	-0.0000	-0.0000	-2.102e-014	3.59	74.13

1256:WVGD1	-1.875e-014	3.197	-0.1009	-5.1840	-0.0000	-0.0000	-1.875e-014	3.197	69.9
1256:ARM4	-1.442e-014	2.527	-0.07165	-4.7083	-0.0000	-0.0000	-1.442e-014	2.527	62.18
1256:WVGD2	-1.312e-014	2.345	-0.0642	-4.5495	-0.0000	-0.0000	-1.312e-014	2.345	59.94
1256:WVGD3	-9.086e-015	1.617	-0.0372	-3.7834	-0.0000	-0.0000	-9.086e-015	1.617	49.96
1256:WVGD4	-5.623e-015	1.022	-0.01909	-3.0131	-0.0000	-0.0000	-5.623e-015	1.022	39.98
1256:WVGD5	-2.937e-015	0.5645	-0.008195	-2.2185	-0.0000	-0.0000	-2.937e-015	0.5645	29.99
1256:WVGD6	-1.269e-015	0.2457	-0.002684	-1.4245	-0.0000	-0.0000	-1.269e-015	0.2457	20
1256:WVGD7	-3.15e-016	0.06093	-0.0005796	-0.6927	-0.0000	-0.0000	-3.15e-016	0.06093	9.999
ARM1L:O	-3.713e-014	5.49	-0.1322	-5.9081	-0.0000	-0.0000	-2.025e-013	4.69	93.12
ARM1L:End	-5.51e-014	5.691	0.27	-5.9059	-0.0000	-0.0000	-1.048e-012	0.8912	95.27
ARM1R:O	-3.398e-014	5.481	-0.2969	-5.9081	-0.0000	-0.0000	-3.398e-014	6.281	92.95
ARM1R:End	-2.561e-014	5.64	-0.8441	-6.3558	-0.0000	-0.0000	-2.561e-014	11.44	94.16
ARM2L:O	-3.115e-014	4.773	-0.0907	-5.8228	-0.0000	-0.0000	-2.085e-013	3.916	86.16
ARM2L:End	-5.839e-014	4.971	0.3945	-5.5555	-0.0000	-0.0000	-1.27e-012	-0.8868	88.39
ARM2R:O	-2.792e-014	4.764	-0.2646	-5.8228	-0.0000	-0.0000	-2.792e-014	5.621	85.99
ARM2R:END	-8.805e-015	4.898	-1.728	-8.9233	-0.0000	-0.0000	-8.805e-015	16.76	86.27
ARM3L:O	-2.252e-014	3.594	-0.02922	-5.4054	-0.0000	-0.0000	-2.202e-013	2.638	74.22
ARM3L:End	-4.718e-014	3.775	0.4206	-5.1304	-0.0000	-0.0000	-1.279e-012	-2.181	76.42
ARM3R:O	-1.952e-014	3.585	-0.2093	-5.4054	-0.0000	-0.0000	-1.952e-014	4.541	74.04
ARM3R:END	-3.641e-015	3.717	-1.594	-8.5311	-0.0000	-0.0000	-3.641e-015	15.67	74.41
ARM4L:O	-1.568e-014	2.53	0.0149	-4.7083	-0.0000	-0.0000	-2.337e-013	1.476	62.26
ARM4L:End	-3.699e-014	2.685	0.4053	-4.4205	-0.0000	-0.0000	-1.289e-012	-3.37	64.41
ARM4R:O	-1.317e-014	2.523	-0.1582	-4.7083	-0.0000	-0.0000	-1.317e-014	3.578	62.09
ARM4R:END	-1.202e-015	2.65	-1.412	-7.8757	-0.0000	-0.0000	-1.202e-015	14.7	62.59

Joint Support Reactions for Load Case "NESC Heavy":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	Z Force (kips)	Comp. Usage %	Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
1256:q	0.00	0.0	-25.40	0.0	52.48	0.0	0.0	58.30	0.0	2091.19	0.0	0.0	0.0	0.00	0.0	0.0

Detailed Steel Pole Usages for Load Case "NESC Heavy":

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Trans. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	Trans. Mom. (Local Mx) (ft-k)	Long. Mom. (Local My) (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	Tran. Shear (kips)	Long. Shear (kips)	P/A (ksi)	M/S. (ksi)	V/Q. (ksi)	T/R. (ksi)	Res. (ksi)	Max. Usage %	At Pt.
1256	1256:t	Origin	0.00	67.99	-0.00	-2.69	-0.00	-0.00	-0.0	-0.10	0.03	0.00	-0.01	0.00	0.00	0.00	0.01	0.0	4
1256	1256:ARM1	End	1.75	65.82	-0.00	-2.57	0.05	0.00	-0.0	-0.10	0.03	0.00	-0.00	0.01	0.00	0.00	0.01	0.0	2
1256	1256:ARM1	Origin	1.75	65.82	-0.00	-2.57	7.46	0.00	-0.0	-1.98	3.83	0.00	-0.10	0.93	0.16	0.00	1.07	1.6	2
1256	1256:TCTop	End	2.37	65.06	-0.00	-2.54	9.84	0.00	-0.0	-1.98	3.83	0.00	-0.10	1.21	0.15	0.00	1.34	2.1	2
1256	1256:TCTop	Origin	2.37	65.06	-0.00	-2.54	9.84	0.00	-0.0	0.03	23.88	0.00	0.00	0.00	2.51	0.00	4.35	6.7	4
1256	1256:TCMid	End	2.87	64.44	-0.00	-2.50	21.78	0.00	-0.0	0.03	23.88	0.00	0.00	0.00	2.50	0.00	4.33	6.7	4
1256	1256:TCMid	Origin	2.87	64.44	-0.00	-2.50	21.78	0.00	-0.0	-8.75	26.71	0.00	-0.44	0.00	2.79	0.00	4.86	7.5	4
1256	1256:TCBot	End	3.37	63.82	-0.00	-2.47	35.13	0.00	-0.0	-8.75	26.71	0.00	-0.44	4.24	1.07	0.00	5.04	7.8	2
1256	1256:TCBot	Origin	3.37	63.82	-0.00	-2.47	35.13	0.00	-0.0	-11.01	6.73	0.00	-0.55	4.24	0.27	0.00	4.82	7.4	2
1256	Tube 1	End	6.06	60.51	-0.00	-2.30	53.23	0.00	-0.0	-11.01	6.73	0.00	-0.54	6.09	0.26	0.00	6.64	10.2	2
1256	Tube 1	Origin	6.06	60.51	-0.00	-2.30	53.23	0.00	-0.0	-11.33	6.81	0.00	-0.55	6.09	0.27	0.00	6.66	10.2	2
1256	1256:ARM2	End	8.75	57.22	-0.00	-2.13	71.56	0.00	-0.0	-11.33	6.81	0.00	-0.54	7.76	0.26	0.00	8.31	12.8	2
1256	1256:ARM2	Origin	8.75	57.22	-0.00	-2.13	92.09	0.00	-0.0	-15.60	12.49	0.00	-0.74	9.98	0.47	0.00	10.76	16.6	2
1256	Tube 1	End	12.24	53.00	-0.00	-1.92	135.73	0.00	-0.0	-15.60	12.49	0.00	-0.72	13.76	0.46	0.00	14.50	22.3	2
1256	Tube 1	Origin	12.24	53.00	-0.00	-1.92	135.73	0.00	-0.0	-16.06	12.59	0.00	-0.74	13.76	0.46	0.00	14.52	22.3	2
1256	1256:BCTop	End	15.74	48.85	-0.00	-1.71	179.72	0.00	-0.0	-16.06	12.59	0.00	-0.72	17.07	0.45	0.00	17.80	27.4	2
1256	1256:BCTop	Origin	15.74	48.85	-0.00	-1.71	179.72	0.00	-0.0	-16.25	13.40	0.00	-0.73	17.07	0.48	0.00	17.81	27.4	2
1256	1256:BCMid	End	16.24	48.27	-0.00	-1.68	186.42	0.00	-0.0	-16.25	13.40	0.00	-0.72	17.54	0.47	0.00	18.28	28.1	2
1256	1256:BCMid	Origin	16.24	48.27	-0.00	-1.68	186.42	0.00	-0.0	-17.85	13.92	0.00	-0.79	17.54	0.49	0.00	18.35	28.2	2
1256	1256:BCBot	End	16.74	47.68	-0.00	-1.65	193.38	0.00	-0.0	-17.85	13.92	0.00	-0.79	18.03	0.49	0.00	18.84	29.0	2
1256	1256:BCBot	Origin	16.74	47.68	-0.00	-1.65	193.38	0.00	-0.0	-18.24	13.21	0.00	-0.81	18.03	0.46	0.00	18.85	29.0	2
1256	1256:ARM3	End	20.75	43.07	-0.00	-1.43	246.37	0.00	-0.0	-18.24	13.21	0.00	-0.78	21.39	0.45	0.00	22.18	34.1	2
1256	1256:ARM3	Origin	20.75	43.07	-0.00	-1.43	266.98	0.00	-0.0	-22.77	18.86	0.00	-0.97	23.17	0.64	0.00	24.17	37.2	2
1256	1256:WVGD1	End	25.00	38.36	-0.00	-1.21	347.12	0.00	-0.0	-22.77	18.86	0.00	-0.94	28.00	0.62	0.00	28.96	44.6	2
1256	1256:WVGD1	Origin	25.00	38.36	-0.00	-1.21	347.12	0.00	-0.0	-24.31	19.16	0.00	-1.00	28.00	0.63	0.00	29.03	44.7	2
1256	Tube 1	End	28.88	34.24	-0.00	-1.03	421.37	0.00	-0.0	-24.31	19.16	0.00	-0.97	31.87	0.61	0.00	32.86	50.6	2
1256	Tube 1	Origin	28.88	34.24	-0.00	-1.03	421.37	0.00	-0.0	-24.95	19.21	0.00	-0.99	31.87	0.61	0.00	32.88	50.6	2
1256	1256:ARM4	End	32.75	30.32	-0.00	-0.86	495.82	0.00	-0.0	-24.95	19.21	0.00	-0.96	35.23	0.59	0.00	36.21	55.7	2
1256	1256:ARM4	Origin	32.75	30.32	-0.00	-0.86	516.55	0.00	-0.0	-29.47	24.75	0.00	-1.14	36.71	0.76	0.00	37.87	58.3	2
1256	1256:WVGD2	End	35.00	28.14	-0.00	-0.77	572.23	0.00	-0.0	-29.47	24.75	0.00	-1.12	39.25	0.75	0.00	40.39	62.3	2
1256	1256:WVGD2	Origin	35.00	28.14	-0.00	-0.77	572.23	0.00	-0.0	-30.87	24.98	0.00	-1.17	39.25	0.75	0.00	40.44	62.4	2
1256	Tube 1	End	38.17	25.20	-0.00	-0.65	651.34	0.00	-0.0	-30.87	24.98	0.00	-1.14	42.55	0.73	0.00	43.71	68.3	2
1256	Tube 1	Origin	38.17	25.20	-0.00	-0.65	651.34	0.00	-0.0	-31.46	24.98	0.00	-1.17	42.55	0.73	0.00	43.73	68.3	2
1256	SpliceT	End	41.33	22.42	-0.00	-0.55	730.44	0.00	-0.0	-31.46	24.98	0.00	-1.14	45.50	0.72	0.00	46.65	73.8	2

1256	SpliceT	Origin	41.33	22.42	-0.00	-0.55	730.44	0.00	-0.0	-32.42	25.00	0.00	-1.17	45.50	0.72	0.00	46.69	73.8	2
1256	1256:WVGD3	End	45.00	19.40	-0.00	-0.45	822.10	0.00	-0.0	-32.42	25.00	0.00	-0.98	42.66	0.60	0.00	43.64	67.1	2
1256	1256:WVGD3	Origin	45.00	19.40	-0.00	-0.45	822.10	0.00	-0.0	-34.55	25.22	0.00	-1.04	42.66	0.60	0.00	43.71	67.2	2
1256	Tube 2	End	50.00	15.63	-0.00	-0.33	948.21	0.00	-0.0	-34.55	25.22	0.00	-1.00	45.74	0.58	0.00	46.75	71.9	2
1256	Tube 2	Origin	50.00	15.63	-0.00	-0.33	948.21	0.00	-0.0	-35.69	25.20	0.00	-1.04	45.74	0.58	0.00	46.79	72.0	2
1256	1256:WVGD4	End	55.00	12.27	-0.00	-0.23	1074.22	0.00	-0.0	-35.69	25.20	0.00	-1.00	48.30	0.56	0.00	49.31	75.9	2
1256	1256:WVGD4	Origin	55.00	12.27	-0.00	-0.23	1074.22	0.00	-0.0	-37.77	25.37	0.00	-1.06	48.30	0.56	0.00	49.37	75.9	2
1256	Tube 2	End	60.00	9.31	-0.00	-0.15	1201.05	0.00	-0.0	-37.77	25.37	0.00	-1.02	50.45	0.55	0.00	51.48	79.2	2
1256	Tube 2	Origin	60.00	9.31	-0.00	-0.15	1201.05	0.00	-0.0	-38.99	25.32	0.00	-1.06	50.45	0.54	0.00	51.52	79.3	2
1256	1256:WVGD5	End	65.00	6.77	-0.00	-0.10	1327.64	0.00	-0.0	-38.99	25.32	0.00	-1.02	52.22	0.53	0.00	53.25	82.3	2
1256	1256:WVGD5	Origin	65.00	6.77	-0.00	-0.10	1327.64	0.00	-0.0	-41.15	25.45	0.00	-1.08	52.22	0.53	0.00	53.31	82.4	2
1256	Tube 2	End	70.00	4.65	-0.00	-0.06	1454.86	0.00	-0.0	-41.15	25.45	0.00	-1.05	53.70	0.51	0.00	54.75	86.0	2
1256	Tube 2	Origin	70.00	4.65	-0.00	-0.06	1454.86	0.00	-0.0	-42.43	25.37	0.00	-1.08	53.70	0.51	0.00	54.78	86.1	2
1256	1256:WVGD6	End	75.00	2.95	-0.00	-0.03	1581.70	0.00	-0.0	-42.43	25.37	0.00	-1.05	54.89	0.50	0.00	55.94	89.4	2
1256	1256:WVGD6	Origin	75.00	2.95	-0.00	-0.03	1581.70	0.00	-0.0	-44.01	25.50	0.00	-1.09	54.89	0.50	0.00	55.98	89.5	2
1256	SpliceT	End	75.08	2.92	-0.00	-0.03	1583.82	0.00	-0.0	-44.01	25.50	0.00	-1.08	54.90	0.50	0.00	56.00	89.5	2
1256	SpliceT	Origin	75.08	2.92	-0.00	-0.03	1583.82	0.00	-0.0	-45.26	25.48	0.00	-1.12	54.90	0.50	0.00	56.03	89.6	2
1256	SpliceB	End	80.00	1.65	-0.00	-0.02	1709.09	0.00	-0.0	-45.26	25.48	0.00	-0.95	50.39	0.43	0.00	51.35	79.0	2
1256	SpliceB	Origin	80.00	1.65	-0.00	-0.02	1709.09	0.00	-0.0	-47.24	25.40	0.00	-0.99	50.39	0.42	0.00	51.39	79.1	2
1256	1256:WVGD7	End	85.00	0.73	-0.00	-0.01	1836.10	0.00	-0.0	-47.24	25.40	0.00	-0.96	51.00	0.41	0.00	51.97	80.0	2
1256	1256:WVGD7	Origin	85.00	0.73	-0.00	-0.01	1836.10	0.00	-0.0	-50.14	25.56	0.00	-1.02	51.00	0.41	0.00	52.03	80.0	2
1256	Tube 3	End	90.00	0.18	-0.00	-0.00	1963.90	0.00	-0.0	-50.14	25.56	0.00	-0.99	51.49	0.40	0.00	52.49	80.7	2
1256	Tube 3	Origin	90.00	0.18	-0.00	-0.00	1963.90	0.00	-0.0	-51.69	25.46	0.00	-1.03	51.49	0.40	0.00	52.52	80.8	2
1256	1256:g	End	95.00	0.00	0.00	0.00	2091.19	0.00	-0.0	-51.69	25.46	0.00	-1.00	51.83	0.39	0.00	52.83	81.3	2

Detailed Tubular Davit Arm Usages for Load Case "NESC Heavy":

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Trans. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	Vert. Mom. (ft-k)	Horz. Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	Vert. Shear (kips)	Horz. Shear (kips)	P/A (ksi)	M/S. (ksi)	V/Q. (ksi)	T/R. (ksi)	Res. (ksi)	Max. Usage %	At Pt.
ARM1L	ARM1L:O	Origin	0.00	65.87	-0.00	-1.59	-0.05	-0.00	-0.0	-2.05	0.01	0.00	-0.49	0.09	0.00	0.00	0.58	0.9	1
ARM1L	ARM1L:End	End	4.37	68.29	-0.00	3.24	-0.00	-0.00	-0.0	-2.05	0.01	0.00	-1.00	0.00	0.01	0.00	1.00	1.5	3
ARM1R	ARM1R:O	Origin	0.00	65.77	-0.00	-3.56	-7.44	0.00	0.0	1.49	1.43	-0.00	0.36	13.52	0.00	0.00	13.88	21.4	1
ARM1R	#ARM1R:O	End	2.65	66.71	-0.00	-6.78	-3.66	0.00	0.0	1.49	1.43	-0.00	0.48	11.99	0.00	0.00	12.47	19.2	1
ARM1R	#ARM1R:O	Origin	2.65	66.71	-0.00	-6.78	-3.66	0.00	-0.0	1.51	1.38	-0.00	0.48	11.99	0.00	0.00	12.48	19.2	1
ARM1R	ARM1R:End	End	5.30	67.68	-0.00	-10.13	0.00	-0.00	-0.0	1.51	1.38	-0.00	0.73	0.00	1.40	0.00	2.54	3.9	3
ARM2L	ARM2L:O	Origin	0.00	57.28	-0.00	-1.09	-4.44	-0.00	-0.0	-3.24	0.85	0.00	-0.78	8.07	0.00	0.00	8.85	13.6	1
ARM2L	#ARM2L:O	End	2.65	58.48	-0.00	1.86	-2.18	-0.00	-0.0	-3.24	0.85	0.00	-1.04	7.16	0.00	0.00	8.21	12.6	1
ARM2L	#ARM2L:O	Origin	2.65	58.48	-0.00	1.86	-2.18	-0.00	-0.0	-3.23	0.82	0.00	-1.04	7.16	0.00	0.00	8.20	12.6	1
ARM2L	ARM2L:End	End	5.30	59.65	-0.00	4.73	-0.00	-0.00	-0.0	-3.23	0.82	0.00	-1.57	0.00	0.84	0.00	2.14	3.3	3
ARM2R	ARM2R:O	Origin	0.00	57.17	-0.00	-3.18	-24.88	0.00	0.0	2.48	2.32	-0.00	0.60	45.21	0.00	0.00	45.81	70.5	1
ARM2R	#ARM2R:O	End	5.00	57.86	-0.00	-10.11	-13.27	0.00	0.0	2.48	2.32	-0.00	0.77	40.59	0.00	0.00	41.36	63.6	1
ARM2R	#ARM2R:O	Origin	5.00	57.86	-0.00	-10.11	-13.27	0.00	0.0	2.53	2.20	-0.00	0.79	40.59	0.00	0.00	41.38	63.7	1
ARM2R	#ARM2R:1	End	8.07	58.32	-0.00	-15.15	-6.51	0.00	0.0	2.53	2.20	-0.00	0.96	29.82	0.00	0.00	30.79	47.4	1
ARM2R	#ARM2R:1	Origin	8.07	58.32	-0.00	-15.15	-6.51	0.00	-0.0	2.57	2.12	-0.00	0.97	29.82	0.00	0.00	30.80	47.4	1
ARM2R	ARM2R:END	End	11.14	58.77	-0.00	-20.73	0.00	-0.00	-0.0	2.57	2.12	-0.00	1.25	0.00	2.16	0.00	3.94	6.1	3
ARM3L	ARM3L:O	Origin	0.00	43.13	-0.00	-0.35	-4.57	-0.00	-0.0	-3.24	0.88	0.00	-0.78	8.30	0.00	0.00	9.08	14.0	1
ARM3L	#ARM3L:O	End	2.65	44.23	-0.00	2.39	-2.25	-0.00	-0.0	-3.24	0.88	0.00	-1.04	7.37	0.00	0.00	8.41	12.9	1
ARM3L	#ARM3L:O	Origin	2.65	44.23	-0.00	2.39	-2.25	-0.00	-0.0	-3.22	0.85	0.00	-1.04	7.37	0.00	0.00	8.41	12.9	1
ARM3L	ARM3L:End	End	5.30	45.30	-0.00	5.05	-0.00	-0.00	-0.0	-3.22	0.85	0.00	-1.56	0.00	0.86	0.00	2.16	3.3	3
ARM3R	ARM3R:O	Origin	0.00	43.02	-0.00	-2.51	-25.08	0.00	0.0	2.47	2.34	-0.00	0.59	45.57	0.00	0.00	46.16	71.0	1
ARM3R	#ARM3R:O	End	5.00	43.70	-0.00	-9.01	-13.37	0.00	0.0	2.47	2.34	-0.00	0.77	40.92	0.00	0.00	41.69	64.1	1
ARM3R	#ARM3R:O	Origin	5.00	43.70	-0.00	-9.01	-13.37	0.00	0.0	2.52	2.22	-0.00	0.78	40.92	0.00	0.00	41.70	64.2	1
ARM3R	#ARM3R:1	End	8.07	44.14	-0.00	-13.80	-6.57	0.00	0.0	2.52	2.22	-0.00	0.96	30.07	0.00	0.00	31.03	47.7	1
ARM3R	#ARM3R:1	Origin	8.07	44.14	-0.00	-13.80	-6.57	0.00	-0.0	2.55	2.14	-0.00	0.97	30.07	0.00	0.00	31.04	47.8	1
ARM3R	ARM3R:END	End	11.14	44.60	-0.00	-19.13	0.00	-0.00	-0.0	2.55	2.14	-0.00	1.24	0.00	2.17	0.00	3.97	6.1	3
ARM4L	ARM4L:O	Origin	0.00	30.36	-0.00	0.18	-4.78	-0.00	-0.0	-3.23	0.92	0.00	-0.78	8.68	0.00	0.00	9.46	14.6	1
ARM4L	#ARM4L:O	End	2.65	31.31	-0.00	2.56	-2.35	-0.00	-0.0	-3.23	0.92	0.00	-1.04	7.71	0.00	0.00	8.75	13.5	1
ARM4L	#ARM4L:O	Origin	2.65	31.31	-0.00	2.56	-2.35	-0.00	-0.0	-3.21	0.89	0.00	-1.03	7.71	0.00	0.00	8.75	13.5	1
ARM4L	ARM4L:End	End	5.30	32.22	-0.00	4.86	-0.00	-0.00	-0.0	-3.21	0.89	0.00	-1.56	0.00	0.90	0.00	2.21	3.4	3
ARM4R	ARM4R:O	Origin	0.00	30.28	-0.00	-1.90	-25.41	0.00	0.0	2.44	2.37	-0.00	0.59	46.16	0.00	0.00	46.75	71.9	1
ARM4R	#ARM4R:O	End	5.00	30.92	-0.00	-7.68	-13.55	0.00	0.0	2.44	2.37	-0.00	0.76	41.47	0.00	0.00	42.23	65.0	1
ARM4R	#ARM4R:O	Origin	5.00	30.92	-0.00	-7.68	-13.55	0.00	0.0	2.49	2.25	-0.00	0.78	41.47	0.00	0.00	42.24	65.0	1
ARM4R	#ARM4R:1	End	8.07	31.35	-0.00	-12.04	-6.66	0.00	0.0	2.49	2.25	-0.00	0.95	30.48	0.00	0.00	31.43	48.4	1
ARM4R	#ARM4R:1	Origin	8.07	31.35	-0.00	-12.04	-6.66	0.00	0.0	2.53	2.17	-0.00	0.96	30.48	0.00	0.00	31.44	48.4	1

ARM4R	ARM4R:END	End	11.14	31.79	-0.00	-16.95	0.00	-0.00	0.0	2.53	2.17	-0.00	1.23	0.00	2.20	0.00	4.01	6.2	3

Summary of Clamp Capacities and Usages for Load Case "NESC Heavy":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Usage %
CL1	2.035	80.00	80.00	2.54
CL2	2.035	80.00	80.00	2.54
CL3	3.318	80.00	80.00	4.15
CL4	3.318	80.00	80.00	4.15
CL5	3.318	80.00	80.00	4.15
CL6	3.318	80.00	80.00	4.15
CL7	3.318	80.00	80.00	4.15
CL8	3.318	80.00	80.00	4.15
CL9	0.933	80.00	80.00	1.17
CL10	0.933	80.00	80.00	1.17
CL11	0.933	80.00	80.00	1.17
CL12	0.933	80.00	80.00	1.17
CL13	0.933	80.00	80.00	1.17
CL14	0.933	80.00	80.00	1.17
CL15	1.400	80.00	80.00	1.75
CL17	20.143	80.00	80.00	25.18
CL18	9.172	80.00	80.00	11.47
CL19	20.143	80.00	80.00	25.18
CL20	0.762	80.00	80.00	0.95
CL21	1.606	80.00	80.00	2.01
CL22	0.762	80.00	80.00	0.95

*** Analysis Results for Load Case No. 2 "NESC Extreme" - Number of iterations in SAPS 17

Equilibrium Joint Positions and Rotations for Load Case "NESC Extreme":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
1256:g	0	0	0	0.0000	0.0000	0.0000	0	0	0
1256:t	-1.404e-014	6.219	-0.2672	-6.5876	-0.0000	-0.0000	-1.404e-014	6.219	94.73
1256:ARM1	-1.35e-014	6.018	-0.2556	-6.5876	-0.0000	-0.0000	-1.35e-014	6.018	92.99
1256:TCTop	-1.331e-014	5.947	-0.2515	-6.5865	-0.0000	-0.0000	-1.331e-014	5.947	92.38
1256:TCMid	-1.315e-014	5.889	-0.2482	-6.5831	-0.0000	-0.0000	-1.315e-014	5.889	91.88
1256:TCBot	-1.3e-014	5.832	-0.2449	-6.5747	-0.0000	-0.0000	-1.3e-014	5.832	91.39
1256:ARM2	-1.135e-014	5.222	-0.2102	-6.4334	-0.0000	-0.0000	-1.135e-014	5.222	86.04
1256:BCTop	-9.31e-015	4.454	-0.1678	-6.1529	-0.0000	-0.0000	-9.31e-015	4.454	79.09
1256:BCMid	-9.171e-015	4.401	-0.1649	-6.1295	-0.0000	-0.0000	-9.171e-015	4.401	78.6
1256:BCBot	-9.032e-015	4.347	-0.1621	-6.1057	-0.0000	-0.0000	-9.032e-015	4.347	78.1
1256:ARM3	-8.819e-015	3.928	-0.14	-5.9011	-0.0000	-0.0000	-8.819e-015	3.928	74.11
1256:WVGD1	-7.641e-015	3.499	-0.1183	-5.6473	-0.0000	-0.0000	-7.641e-015	3.499	69.88
1256:ARM4	-6.344e-015	2.771	-0.08388	-5.1157	-0.0000	-0.0000	-6.344e-015	2.771	62.17
1256:WVGD2	-5.801e-015	2.573	-0.07516	-4.9438	-0.0000	-0.0000	-5.801e-015	2.573	59.92
1256:WVGD3	-4.166e-015	1.781	-0.0435	-4.1236	-0.0000	-0.0000	-4.166e-015	1.781	49.96
1256:WVGD4	-2.766e-015	1.132	-0.02217	-3.3019	-0.0000	-0.0000	-2.766e-015	1.132	39.98
1256:WVGD5	-1.61e-015	0.6285	-0.009283	-2.4485	-0.0000	-0.0000	-1.61e-015	0.6285	29.99
1256:WVGD6	-6.759e-016	0.2752	-0.002809	-1.5855	-0.0000	-0.0000	-6.759e-016	0.2752	20
1256:WVGD7	-1.782e-016	0.06871	-0.0004562	-0.7780	-0.0000	-0.0000	-1.782e-016	0.06871	10
ARM1L:O	-1.467e-014	6.023	-0.1639	-6.5876	-0.0000	-0.0000	-1.801e-013	5.223	93.09
ARM1L:End	-2.912e-014	6.252	0.2864	-6.6533	-0.0000	-0.0000	-1.022e-012	1.452	95.29
ARM1R:O	-1.232e-014	6.013	-0.3474	-6.5876	-0.0000	-0.0000	-1.232e-014	6.812	92.9
ARM1R:End	-5.481e-015	6.183	-0.9418	-6.7659	-0.0000	-0.0000	-5.481e-015	11.98	94.06
ARM2L:O	-1.257e-014	5.227	-0.1141	-6.4334	-0.0000	-0.0000	-1.899e-013	4.37	86.14
ARM2L:End	-3.471e-014	5.456	0.4364	-6.4628	-0.0000	-0.0000	-1.246e-012	-0.4016	88.44
ARM2R:O	-1.014e-014	5.217	-0.3062	-6.4334	-0.0000	-0.0000	-1.014e-014	6.074	85.94
ARM2R:END	4.652e-015	5.349	-1.702	-7.8248	-0.0000	-0.0000	4.652e-015	17.21	86.3
ARM3L:O	-9.951e-015	3.933	-0.04173	-5.9011	-0.0000	-0.0000	-2.076e-013	2.977	74.21
ARM3L:End	-2.981e-014	4.14	0.4641	-5.9236	-0.0000	-0.0000	-1.262e-012	-1.816	76.46
ARM3R:O	-7.687e-015	3.923	-0.2383	-5.9011	-0.0000	-0.0000	-7.687e-015	4.878	74.01
ARM3R:END	4.643e-015	4.052	-1.533	-7.3187	-0.0000	-0.0000	4.643e-015	16.01	74.47
ARM4L:O	-7.294e-015	2.775	0.01014	-5.1157	-0.0000	-0.0000	-2.254e-013	1.721	62.26
ARM4L:End	-2.421e-014	2.951	0.4495	-5.1281	-0.0000	-0.0000	-1.276e-012	-3.103	64.45
ARM4R:O	-5.394e-015	2.767	-0.1779	-5.1157	-0.0000	-0.0000	-5.394e-015	3.821	62.07
ARM4R:END	3.93e-015	2.889	-1.325	-6.5718	-0.0000	-0.0000	3.93e-015	14.94	62.68

Joint Support Reactions for Load Case "NESC Extreme":

Joint Label	X Force (kips)	X Usage %	Y Force (kips)	Y Usage %	Z Force (kips)	Comp. Uplift Usage %	Result. Force (kips)	Result. Usage %	X Moment (ft-k)	X-M. Usage %	Y Moment (ft-k)	Y-M. Usage %	Z Moment (ft-k)	Z-M. Usage %	Max. Usage %
1256:g	0.00	0.0	-33.19	0.0	24.85	0.0	41.47	0.0	2370.23	0.0	0.0	0.0	0.00	0.0	0.0

Detailed Steel Pole Usages for Load Case "NESC Extreme":

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Trans. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	Trans. Mom. (Local Mx) (ft-k)	Long. Mom. (Local My) (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	Tran. Shear (kips)	Long. Shear (kips)	P/A (ksi)	M/S. (ksi)	V/Q. (ksi)	T/R. (ksi)	Res. (ksi)	Max. Usage %	At Pt.
1256	1256:t	Origin	0.00	74.63	-0.00	-3.21	-0.00	-0.00	-0.0	-0.06	0.06	0.00	-0.00	0.00	0.01	0.00	0.01	0.0	4
1256	1256:ARM1	End	1.75	72.22	-0.00	-3.07	0.11	0.00	-0.0	-0.06	0.06	0.00	-0.00	0.01	0.00	0.00	0.02	0.0	2
1256	1256:ARM1	Origin	1.75	72.22	-0.00	-3.07	4.58	0.00	-0.0	-0.52	2.57	0.00	-0.03	0.57	0.10	0.00	0.63	1.0	2
1256	1256:TCTop	End	2.37	71.36	-0.00	-3.02	6.17	0.00	-0.0	-0.52	2.57	0.00	-0.03	0.76	0.10	0.00	0.81	1.2	2
1256	1256:TCTop	Origin	2.37	71.36	-0.00	-3.02	6.17	0.00	-0.0	6.75	65.78	0.00	0.34	0.00	6.92	0.00	11.98	18.4	4
1256	1256:TCMid	End	2.87	70.67	-0.00	-2.98	39.06	0.00	-0.0	6.75	65.78	0.00	0.34	0.00	6.88	0.00	11.92	18.3	4
1256	1256:TCMid	Origin	2.87	70.67	-0.00	-2.98	39.06	0.00	-0.0	3.83	71.45	0.00	0.19	0.00	7.47	0.00	12.95	19.9	4
1256	1256:TCBot	End	3.37	69.98	-0.00	-2.94	74.79	0.00	-0.0	3.83	71.45	0.00	0.19	0.00	7.44	0.00	12.88	19.8	4
1256	1256:TCBot	Origin	3.37	69.98	-0.00	-2.94	74.79	0.00	-0.0	-3.59	8.40	0.00	-0.18	9.04	0.34	0.00	9.24	14.2	2
1256	Tube 1	End	6.06	66.30	-0.00	-2.73	97.38	0.00	-0.0	-3.59	8.40	0.00	-0.18	11.14	0.33	0.00	11.33	17.4	2
1256	Tube 1	Origin	6.06	66.30	-0.00	-2.73	97.38	0.00	-0.0	-3.79	8.60	0.00	-0.19	11.14	0.33	0.00	11.34	17.4	2
1256	1256:ARM2	End	8.75	62.66	-0.00	-2.52	120.51	0.00	-0.0	-3.79	8.60	0.00	-0.18	13.07	0.33	0.00	13.26	20.4	2
1256	1256:ARM2	Origin	8.75	62.66	-0.00	-2.52	132.26	0.00	-0.0	-5.49	13.18	0.00	-0.26	14.34	0.50	0.00	14.63	22.5	2
1256	Tube 1	End	12.24	58.01	-0.00	-2.26	178.33	0.00	-0.0	-5.49	13.18	0.00	-0.25	18.07	0.48	0.00	18.35	28.2	2

1256	Tube 1	Origin	12.24	58.01	-0.00	-2.26	178.33	0.00	-0.0	-5.78	13.45	0.00	-0.27	18.07	0.49	0.00	18.36	28.2	2
1256	1256:BCTop	End	15.74	53.45	-0.00	-2.01	225.33	0.00	-0.0	-5.78	13.45	0.00	-0.26	21.40	0.48	0.00	21.67	33.3	2
1256	1256:BCTop	Origin	15.74	53.45	-0.00	-2.01	225.33	0.00	-0.0	-5.79	15.09	0.00	-0.26	21.40	0.54	0.00	21.68	33.3	2
1256	1256:BCMid	End	16.24	52.81	-0.00	-1.98	232.88	0.00	-0.0	-5.79	15.09	0.00	-0.26	21.91	0.53	0.00	22.19	34.1	2
1256	1256:BCMid	Origin	16.24	52.81	-0.00	-1.98	232.88	0.00	-0.0	-6.37	15.89	0.00	-0.28	21.91	0.56	0.00	22.22	34.2	2
1256	1256:BCBot	End	16.74	52.17	-0.00	-1.95	240.82	0.00	-0.0	-6.37	15.89	0.00	-0.28	22.45	0.56	0.00	22.76	35.0	2
1256	1256:BCBot	Origin	16.74	52.17	-0.00	-1.95	240.82	0.00	-0.0	-6.74	14.58	0.00	-0.30	22.45	0.51	0.00	22.77	35.0	2
1256	1256:ARM3	End	20.75	47.13	-0.00	-1.68	299.27	0.00	-0.0	-6.74	14.58	0.00	-0.29	25.98	0.49	0.00	26.28	40.4	2
1256	1256:ARM3	Origin	20.75	47.13	-0.00	-1.68	311.11	0.00	-0.0	-8.63	19.24	0.00	-0.37	27.01	0.65	0.00	27.40	42.1	2
1256	1256:WVGD1	End	25.00	41.99	-0.00	-1.42	392.87	0.00	-0.0	-8.63	19.24	0.00	-0.36	31.70	0.63	0.00	32.07	49.3	2
1256	1256:WVGD1	Origin	25.00	41.99	-0.00	-1.42	392.87	0.00	-0.0	-9.26	20.04	0.00	-0.38	31.70	0.65	0.00	32.10	49.4	2
1256	Tube 1	End	28.88	37.51	-0.00	-1.20	470.51	0.00	-0.0	-9.26	20.04	0.00	-0.37	35.59	0.63	0.00	35.97	55.3	2
1256	Tube 1	Origin	28.88	37.51	-0.00	-1.20	470.51	0.00	-0.0	-9.68	20.35	0.00	-0.39	35.59	0.64	0.00	35.99	55.4	2
1256	1256:ARM4	End	32.75	33.25	-0.00	-1.01	549.35	0.00	-0.0	-9.68	20.35	0.00	-0.37	39.04	0.62	0.00	39.43	60.7	2
1256	1256:ARM4	Origin	32.75	33.25	-0.00	-1.01	561.34	0.00	-0.0	-11.59	24.91	0.00	-0.45	39.89	0.76	0.00	40.36	62.1	2
1256	1256:WVGD2	End	35.00	30.88	-0.00	-0.90	617.38	0.00	-0.0	-11.59	24.91	0.00	-0.44	42.35	0.75	0.00	42.81	65.9	2
1256	1256:WVGD2	Origin	35.00	30.88	-0.00	-0.90	617.38	0.00	-0.0	-12.14	25.60	0.00	-0.46	42.35	0.77	0.00	42.83	65.9	2
1256	Tube 1	End	38.17	27.68	-0.00	-0.77	698.43	0.00	-0.0	-12.14	25.60	0.00	-0.45	45.63	0.75	0.00	46.09	70.9	2
1256	Tube 1	Origin	38.17	27.68	-0.00	-0.77	698.43	0.00	-0.0	-12.54	25.85	0.00	-0.46	45.63	0.76	0.00	46.11	70.9	2
1256	SpliceT	End	41.33	24.66	-0.00	-0.65	780.28	0.00	-0.0	-12.54	25.85	0.00	-0.45	48.60	0.74	0.00	49.07	75.5	2
1256	SpliceT	Origin	41.33	24.66	-0.00	-0.65	780.28	0.00	-0.0	-13.20	26.14	0.00	-0.48	48.60	0.75	0.00	49.10	75.5	2
1256	1256:WVGD3	End	45.00	21.37	-0.00	-0.52	876.14	0.00	-0.0	-13.20	26.14	0.00	-0.40	45.46	0.63	0.00	45.87	70.6	2
1256	1256:WVGD3	Origin	45.00	21.37	-0.00	-0.52	876.14	0.00	-0.0	-14.24	26.98	0.00	-0.43	45.46	0.65	0.00	45.90	70.6	2
1256	Tube 2	End	50.00	17.26	-0.00	-0.38	1011.04	0.00	-0.0	-14.24	26.98	0.00	-0.41	48.77	0.62	0.00	49.20	75.7	2
1256	Tube 2	Origin	50.00	17.26	-0.00	-0.38	1011.04	0.00	-0.0	-15.02	27.39	0.00	-0.44	48.77	0.63	0.00	49.22	75.7	2
1256	1256:WVGD4	End	55.00	13.58	-0.00	-0.27	1148.01	0.00	-0.0	-15.02	27.39	0.00	-0.42	51.61	0.61	0.00	52.05	80.1	2
1256	1256:WVGD4	Origin	55.00	13.58	-0.00	-0.27	1148.01	0.00	-0.0	-16.06	28.28	0.00	-0.45	51.61	0.63	0.00	52.08	80.1	2
1256	Tube 2	End	60.00	10.34	-0.00	-0.18	1289.42	0.00	-0.0	-16.06	28.28	0.00	-0.44	54.16	0.61	0.00	54.61	84.0	2
1256	Tube 2	Origin	60.00	10.34	-0.00	-0.18	1289.42	0.00	-0.0	-16.89	28.70	0.00	-0.46	54.16	0.62	0.00	54.63	84.0	2
1256	1256:WVGD5	End	65.00	7.54	-0.00	-0.11	1432.94	0.00	-0.0	-16.89	28.70	0.00	-0.44	56.36	0.60	0.00	56.82	87.4	2
1256	1256:WVGD5	Origin	65.00	7.54	-0.00	-0.11	1432.94	0.00	-0.0	-17.99	29.60	0.00	-0.47	56.36	0.62	0.00	56.84	87.5	2
1256	Tube 2	End	70.00	5.20	-0.00	-0.06	1580.93	0.00	-0.0	-17.99	29.60	0.00	-0.46	58.35	0.60	0.00	58.82	90.5	2
1256	Tube 2	Origin	70.00	5.20	-0.00	-0.06	1580.93	0.00	-0.0	-18.88	30.03	0.00	-0.48	58.35	0.61	0.00	58.84	90.5	2
1256	1256:WVGD6	End	75.00	3.30	-0.00	-0.03	1731.09	0.00	-0.0	-18.88	30.03	0.00	-0.47	60.07	0.59	0.00	60.54	93.3	2
1256	1256:WVGD6	Origin	75.00	3.30	-0.00	-0.03	1731.09	0.00	-0.0	-19.58	30.71	0.00	-0.48	60.07	0.60	0.00	60.56	93.3	2
1256	SpliceT	End	75.08	3.28	-0.00	-0.03	1733.64	0.00	-0.0	-19.58	30.71	0.00	-0.48	60.10	0.60	0.00	60.59	93.4	2
1256	SpliceT	Origin	75.08	3.28	-0.00	-0.03	1733.64	0.00	-0.0	-20.44	30.95	0.00	-0.50	60.10	0.60	0.00	60.61	93.4	2
1256	SpliceB	End	80.00	1.85	-0.00	-0.02	1885.80	0.00	-0.0	-20.44	30.95	0.00	-0.43	55.60	0.52	0.00	56.04	86.2	2
1256	SpliceB	Origin	80.00	1.85	-0.00	-0.02	1885.80	0.00	-0.0	-21.80	31.39	0.00	-0.46	55.60	0.52	0.00	56.06	86.3	2
1256	1256:WVGD7	End	85.00	0.82	-0.00	-0.01	2042.75	0.00	-0.0	-21.80	31.39	0.00	-0.45	56.74	0.51	0.00	57.19	88.0	2
1256	1256:WVGD7	Origin	85.00	0.82	-0.00	-0.01	2042.75	0.00	-0.0	-23.22	32.52	0.00	-0.47	56.74	0.53	0.00	57.22	88.0	2
1256	Tube 3	End	90.00	0.21	-0.00	-0.00	2205.37	0.00	-0.0	-23.22	32.52	0.00	-0.46	57.82	0.51	0.00	58.28	89.7	2
1256	Tube 3	Origin	90.00	0.21	-0.00	-0.00	2205.37	0.00	-0.0	-24.30	32.97	0.00	-0.48	57.82	0.52	0.00	58.31	89.7	2
1256	1256:g	End	95.00	0.00	0.00	0.00	2370.23	0.00	-0.0	-24.30	32.97	0.00	-0.47	58.74	0.50	0.00	59.22	91.1	2

Detailed Tubular Davit Arm Usages for Load Case "NESC Extreme":

Element Label	Joint Label	Joint Position	Rel. Dist. (ft)	Trans. Defl. (in)	Long. Defl. (in)	Vert. Defl. (in)	Vert. Mom. (ft-k)	Horz. Mom. (ft-k)	Tors. Mom. (ft-k)	Axial Force (kips)	Vert. Shear (kips)	Horz. Shear (kips)	P/A (ksi)	M/S. (ksi)	V/Q. (ksi)	T/R. (ksi)	Res. (ksi)	Max. Usage %	At Pt.
ARM1L	ARM1L:O	Origin	0.00	72.28	-0.00	-1.97	1.46	-0.00	-0.0	-1.17	-0.33	0.00	-0.28	2.65	0.00	0.00	2.93	4.5	1
ARM1L	ARM1L:End	End	4.37	75.03	-0.00	3.44	-0.00	-0.00	-0.0	-1.17	-0.33	0.00	-0.57	0.00	0.34	0.00	0.82	1.3	3
ARM1R	ARM1R:O	Origin	0.00	72.15	-0.00	-4.17	-2.98	0.00	0.0	1.07	0.58	-0.00	0.26	5.42	0.00	0.00	5.68	8.7	1
ARM1R	#ARM1R:0	End	2.65	73.17	-0.00	-7.71	-1.45	0.00	0.0	1.07	0.58	-0.00	0.35	4.76	0.00	0.00	5.10	7.8	1
ARM1R	#ARM1R:0	Origin	2.65	73.17	-0.00	-7.71	-1.45	0.00	-0.0	1.08	0.55	-0.00	0.35	4.76	0.00	0.00	5.10	7.9	1
ARM1R	ARM1R:End	End	5.30	74.19	-0.00	-11.30	0.00	-0.00	-0.0	1.08	0.55	-0.00	0.53	0.00	0.56	0.00	1.10	1.7	3
ARM2L	ARM2L:O	Origin	0.00	62.73	-0.00	-1.37	0.45	-0.00	-0.0	-2.27	-0.08	0.00	-0.55	0.83	0.00	0.00	1.37	2.1	1
ARM2L	#ARM2L:0	End	2.65	64.10	-0.00	1.93	0.25	-0.00	-0.0	-2.27	-0.08	0.00	-0.73	0.82	0.00	0.00	1.55	2.4	1
ARM2L	#ARM2L:0	Origin	2.65	64.10	-0.00	1.93	0.25	-0.00	-0.0	-2.26	-0.09	0.00	-0.73	0.82	0.00	0.00	1.55	2.4	1
ARM2L	ARM2L:End	End	5.30	65.47	-0.00	5.24	-0.00	-0.00	-0.0	-2.26	-0.09	0.00	-1.10	0.00	0.10	0.00	1.11	1.7	3
ARM2R	ARM2R:O	Origin	0.00	62.60	-0.00	-3.67	-11.23	0.00	0.0	2.04	1.06	-0.00	0.49	20.39	0.00	0.00	20.88	32.1	1
ARM2R	#ARM2R:0	End	5.00	63.30	-0.00	-10.77	-5.95	0.00	0.0	2.04	1.06	-0.00	0.63	18.20	0.00	0.00	18.83	29.0	1
ARM2R	#ARM2R:0	Origin	5.00	63.30	-0.00	-10.77	-5.95	0.00	0.0	2.05	0.99	-0.00	0.64	18.20	0.00	0.00	18.83	29.0	1
ARM2R	#ARM2R:1	End	8.07	63.74	0.00	-15.47	-2.91	0.00	0.0	2.05	0.99	-0.00	0.78	13.33	0.00	0.00	14.11	21.7	1
ARM2R	#ARM2R:1	Origin	8.07	63.74	0.00	-15.47	-2.91	0.00	0.0	2.05	0.95	-0.00	0.78	13.33	0.00	0.00	14.11	21.7	1
ARM2R	ARM2R:END	End	11.14	64.19	0.00	-20.42	0.00	-0.00	0.0	2.05	0.95	-0.00	1.00	0.00	0.96	0.00	1.95	3.0	3
ARM3L	ARM3L:O	Origin	0.00	47.19	-0.00	-0.50	0.34	-0.00	-0.0	-2.27	-0.06	0.00	-0.55	0.62	0.00	0.00	1.17	1.8	1
ARM3L	#ARM3L:0	End	2.65	48.43	-0.00	2.53	0.19	-0.00	-0.0	-2.27	-0.06	0.00	-0.73	0.63	0.00	0.00	1.37	2.1	1

ARM3L	#ARM3L:0	Origin	2.65	48.43	-0.00	2.53	0.19	-0.00	-0.0	-2.26	-0.07	0.00	-0.73	0.63	0.00	0.00	1.36	2.1	1
ARM3L	ARM3L:End	End	5.30	49.68	-0.00	5.57	-0.00	-0.00	-0.0	-2.26	-0.07	0.00	-1.10	0.00	0.07	0.00	1.11	1.7	3
ARM3R	ARM3R:0	Origin	0.00	47.07	-0.00	-2.86	-11.43	0.00	0.0	2.03	1.07	-0.00	0.49	20.77	0.00	0.00	21.26	32.7	1
ARM3R	#ARM3R:0	End	5.00	47.75	-0.00	-9.40	-6.06	0.00	0.0	2.03	1.07	-0.00	0.63	18.54	0.00	0.00	19.17	29.5	1
ARM3R	#ARM3R:0	Origin	5.00	47.75	-0.00	-9.40	-6.06	0.00	0.0	2.04	1.01	-0.00	0.63	18.54	0.00	0.00	19.17	29.5	1
ARM3R	#ARM3R:1	End	8.07	48.18	0.00	-13.78	-2.97	0.00	0.0	2.04	1.01	-0.00	0.77	13.59	0.00	0.00	14.36	22.1	1
ARM3R	#ARM3R:1	Origin	8.07	48.18	0.00	-13.78	-2.97	0.00	0.0	2.05	0.97	-0.00	0.78	13.59	0.00	0.00	14.36	22.1	1
ARM3R	ARM3R:END	End	11.14	48.62	0.00	-18.40	0.00	-0.00	0.0	2.05	0.97	-0.00	0.99	0.00	0.98	0.00	1.97	3.0	3
ARM4L	ARM4L:0	Origin	0.00	33.30	-0.00	0.12	0.17	-0.00	-0.0	-2.27	-0.02	0.00	-0.55	0.31	0.00	0.00	0.86	1.3	1
ARM4L	#ARM4L:0	End	2.65	34.36	-0.00	2.76	0.11	-0.00	-0.0	-2.27	-0.02	0.00	-0.73	0.36	0.00	0.00	1.09	1.7	1
ARM4L	#ARM4L:0	Origin	2.65	34.36	-0.00	2.76	0.11	-0.00	-0.0	-2.26	-0.04	0.00	-0.73	0.36	0.00	0.00	1.09	1.7	1
ARM4L	ARM4L:End	End	5.30	35.42	-0.00	5.39	-0.00	-0.00	-0.0	-2.26	-0.04	0.00	-1.10	0.00	0.04	0.00	1.10	1.7	3
ARM4R	ARM4R:0	Origin	0.00	33.20	-0.00	-2.13	-11.73	0.00	0.0	2.01	1.10	-0.00	0.48	21.32	0.00	0.00	21.80	33.5	1
ARM4R	#ARM4R:0	End	5.00	33.83	-0.00	-7.87	-6.22	0.00	0.0	2.01	1.10	-0.00	0.63	19.04	0.00	0.00	19.67	30.3	1
ARM4R	#ARM4R:0	Origin	5.00	33.83	-0.00	-7.87	-6.22	0.00	0.0	2.03	1.03	-0.00	0.63	19.04	0.00	0.00	19.67	30.3	1
ARM4R	#ARM4R:1	End	8.07	34.24	0.00	-11.75	-3.05	0.00	0.0	2.03	1.03	-0.00	0.77	13.96	0.00	0.00	14.73	22.7	1
ARM4R	#ARM4R:1	Origin	8.07	34.24	0.00	-11.75	-3.05	0.00	0.0	2.03	0.99	-0.00	0.77	13.96	0.00	0.00	14.73	22.7	1
ARM4R	ARM4R:END	End	11.14	34.66	0.00	-15.89	0.00	-0.00	0.0	2.03	0.99	-0.00	0.99	0.00	1.01	0.00	2.01	3.1	3

Summary of Clamp Capacities and Usages for Load Case "NESC Extreme":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Usage %
CL1	1.210	80.00	80.00	1.51
CL2	1.210	80.00	80.00	1.51
CL3	2.258	80.00	80.00	2.82
CL4	2.258	80.00	80.00	2.82
CL5	2.258	80.00	80.00	2.82
CL6	2.258	80.00	80.00	2.82
CL7	2.258	80.00	80.00	2.82
CL8	2.258	80.00	80.00	2.82
CL9	0.519	80.00	80.00	0.65
CL10	0.519	80.00	80.00	0.65
CL11	0.519	80.00	80.00	0.65
CL12	0.519	80.00	80.00	0.65
CL13	0.519	80.00	80.00	0.65
CL14	0.519	80.00	80.00	0.65
CL15	0.779	80.00	80.00	0.97
CL17	63.592	80.00	80.00	79.49
CL18	6.330	80.00	80.00	7.91
CL19	63.592	80.00	80.00	79.49
CL20	1.499	80.00	80.00	1.87
CL21	0.931	80.00	80.00	1.16
CL22	1.499	80.00	80.00	1.87

*** Overall summary for all load cases - Usage - Maximum Stress / Allowable Stress

Summary of Steel Pole Usages:

Steel Pole Label	Maximum Usage %	Load Case	Segment Number	Weight (lbs)
1256	93.44	NESC Extreme	26	13397.1

Base Plate Results by Bend Line:

Pole Label	Load Case	Bend Line #	Start X (ft)	Start Y (ft)	End X (ft)	End Y (ft)	Length (in)	Bending Stress (ksi)	Bolt Mom. Sum (ft-k)	# Bolts Acting	Bolt Max Load (kips)	Min Plate Thickness (in)	Actual Thickness (in)	Usage %
1256	NESC Heavy	1	1.875	0.258	0.258	1.875	27.440	16.055	64.630	2	131.317	1.756	3.250	29.19
1256	NESC Heavy	2	1.508	-1.117	1.508	1.117	26.800	12.729	50.045	4	54.495	1.564	3.250	23.14
1256	NESC Heavy	3	0.258	-1.875	1.875	-0.258	27.440	14.922	60.067	2	-124.757	1.693	3.250	27.13
1256	NESC Heavy	4	-1.117	-1.508	1.117	-1.508	26.800	46.540	182.977	4	-124.757	2.990	3.250	84.62
1256	NESC Heavy	5	-1.875	-0.258	-0.258	-1.875	27.440	14.922	60.067	2	-124.757	1.693	3.250	27.13
1256	NESC Heavy	6	-1.508	1.117	-1.508	-1.117	26.800	12.729	50.045	4	54.495	1.564	3.250	23.14
1256	NESC Heavy	7	-0.258	1.875	-1.875	0.258	27.440	16.055	64.630	2	131.317	1.756	3.250	29.19
1256	NESC Heavy	8	1.117	1.508	-1.117	1.508	26.800	48.987	192.598	4	131.317	3.067	3.250	89.07
1256	NESC Heavy	9	0.959	1.370	-0.255	1.873	15.771	33.262	76.954	3	131.317	2.527	3.250	60.48
1256	NESC Heavy	10	1.873	-0.255	1.370	0.959	15.771	10.846	25.093	3	54.495	1.443	3.250	19.72
1256	NESC Heavy	11	1.370	-0.959	1.873	0.255	15.771	9.208	21.304	3	-47.935	1.330	3.250	16.74
1256	NESC Heavy	12	-0.255	-1.873	0.959	-1.370	15.771	31.600	73.110	3	-124.757	2.463	3.250	57.46
1256	NESC Heavy	13	-0.959	-1.370	0.255	-1.873	15.771	31.600	73.110	3	-124.757	2.463	3.250	57.46
1256	NESC Heavy	14	-1.873	0.255	-1.370	-0.959	15.771	9.208	21.304	3	-47.935	1.330	3.250	16.74
1256	NESC Heavy	15	-1.370	0.959	-1.873	-0.255	15.771	10.846	25.093	3	54.495	1.443	3.250	19.72
1256	NESC Heavy	16	0.255	1.873	-0.959	1.370	15.771	33.262	76.954	3	131.317	2.527	3.250	60.48
1256	NESC Extreme	1	1.875	0.258	0.258	1.875	27.440	17.824	71.748	2	146.675	1.850	3.250	32.41
1256	NESC Extreme	2	1.508	-1.117	1.508	1.117	26.800	14.428	56.723	4	59.602	1.665	3.250	26.23
1256	NESC Extreme	3	0.258	-1.875	1.875	-0.258	27.440	17.287	69.588	2	-143.569	1.822	3.250	31.43
1256	NESC Extreme	4	-1.117	-1.508	1.117	-1.508	26.800	53.558	210.568	4	-143.569	3.207	3.250	97.38
1256	NESC Extreme	5	-1.875	-0.258	-0.258	-1.875	27.440	17.287	69.588	2	-143.569	1.822	3.250	31.43
1256	NESC Extreme	6	-1.508	1.117	-1.508	-1.117	26.800	14.428	56.723	4	59.602	1.665	3.250	26.23
1256	NESC Extreme	7	-0.258	1.875	-1.875	0.258	27.440	17.824	71.748	2	146.675	1.850	3.250	32.41
1256	NESC Extreme	8	1.117	1.508	-1.117	1.508	26.800	54.717	215.123	4	146.675	3.242	3.250	99.48
1256	NESC Extreme	9	0.959	1.370	-0.255	1.873	15.771	37.152	85.954	3	146.675	2.671	3.250	67.55
1256	NESC Extreme	10	1.873	-0.255	1.370	0.959	15.771	11.753	27.191	3	59.602	1.502	3.250	21.37
1256	NESC Extreme	11	1.370	-0.959	1.873	0.255	15.771	10.977	25.397	3	-56.496	1.452	3.250	19.96
1256	NESC Extreme	12	-0.255	-1.873	0.959	-1.370	15.771	36.365	84.134	3	-143.569	2.643	3.250	66.12
1256	NESC Extreme	13	-0.959	-1.370	0.255	-1.873	15.771	36.365	84.134	3	-143.569	2.643	3.250	66.12
1256	NESC Extreme	14	-1.873	0.255	-1.370	-0.959	15.771	10.977	25.397	3	-56.496	1.452	3.250	19.96
1256	NESC Extreme	15	-1.370	0.959	-1.873	-0.255	15.771	11.753	27.191	3	59.602	1.502	3.250	21.37
1256	NESC Extreme	16	0.255	1.873	-0.959	1.370	15.771	37.152	85.954	3	146.675	2.671	3.250	67.55

Summary of Tubular Davit Usages:

Tubular Davit Label	Maximum Usage %	Load Case	Segment Number	Weight (lbs)
ARM1L	4.51	NESC Extreme	1	46.2
ARM1R	21.36	NESC Heavy	1	56.0
ARM2L	13.62	NESC Heavy	1	56.0
ARM2R	70.47	NESC Heavy	1	117.7
ARM3L	13.97	NESC Heavy	1	56.0
ARM3R	71.02	NESC Heavy	1	117.7
ARM4L	14.55	NESC Heavy	1	56.0
ARM4R	71.92	NESC Heavy	1	117.7

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	89.57	1256	Steel Pole

NESC Extreme 99.48 1256 Base Plate

Summary of Steel Pole Usages by Load Case:

Load Case	Maximum Steel Pole Segment Usage %	Label	Number
NESC Heavy	89.57	1256	26
NESC Extreme	93.44	1256	26

Summary of Base Plate Usages by Load Case:

Load Case	Pole Label	Bend Line #	Length (in)	Vertical Load (kips)	X Moment (ft-k)	Y Moment (ft-k)	Bending Stress (ksi)	Bolt Moment Sum (ft-k)	# Bolts Acting On Bend Line	Max Bolt Load For Bend Line (kips)	Minimum Plate Thickness (in)	Usage %
NESC Heavy	1256	8	26.800	52.482	2091.185	0.000	48.987	192.598	4	131.317	3.067	89.07
NESC Extreme	1256	8	26.800	24.849	2370.229	0.000	54.717	215.123	4	146.675	3.242	99.48

Summary of Tubular Davit Usages by Load Case:

Load Case	Maximum Tubular Davit Segment Usage %	Label	Number
NESC Heavy	71.92	ARM4R	1
NESC Extreme	33.54	ARM4R	1

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
CL1	Clamp	2.54	NESC Heavy	0.0
CL2	Clamp	2.54	NESC Heavy	0.0
CL3	Clamp	4.15	NESC Heavy	0.0
CL4	Clamp	4.15	NESC Heavy	0.0
CL5	Clamp	4.15	NESC Heavy	0.0
CL6	Clamp	4.15	NESC Heavy	0.0
CL7	Clamp	4.15	NESC Heavy	0.0
CL8	Clamp	4.15	NESC Heavy	0.0
CL9	Clamp	1.17	NESC Heavy	0.0
CL10	Clamp	1.17	NESC Heavy	0.0
CL11	Clamp	1.17	NESC Heavy	0.0
CL12	Clamp	1.17	NESC Heavy	0.0
CL13	Clamp	1.17	NESC Heavy	0.0
CL14	Clamp	1.17	NESC Heavy	0.0
CL15	Clamp	1.75	NESC Heavy	0.0
CL17	Clamp	79.49	NESC Extreme	0.0
CL18	Clamp	11.47	NESC Heavy	0.0
CL19	Clamp	79.49	NESC Extreme	0.0
CL20	Clamp	1.87	NESC Extreme	0.0
CL21	Clamp	2.01	NESC Heavy	0.0
CL22	Clamp	1.87	NESC Extreme	0.0

Loads At Insulator Attachments For All Load Cases:

Load Case	Insulator Label	Insulator Type	Structure Attach Label	Structure Attach Load X (kips)	Structure Attach Load Y (kips)	Structure Attach Load Z (kips)	Structure Attach Load Res. (kips)
NESC Heavy	CL1	Clamp	ARM1L:End	0.000	1.778	0.989	2.035
NESC Heavy	CL2	Clamp	ARM1R:End	0.000	1.778	0.989	2.035
NESC Heavy	CL3	Clamp	ARM2L:End	0.000	2.578	2.089	3.318
NESC Heavy	CL4	Clamp	ARM2R:END	0.000	2.578	2.089	3.318
NESC Heavy	CL5	Clamp	ARM3L:End	0.000	2.578	2.089	3.318
NESC Heavy	CL6	Clamp	ARM3R:END	0.000	2.578	2.089	3.318
NESC Heavy	CL7	Clamp	ARM4L:End	0.000	2.578	2.089	3.318
NESC Heavy	CL8	Clamp	ARM4R:END	0.000	2.578	2.089	3.318
NESC Heavy	CL9	Clamp	1256:WVGD1	0.000	0.156	0.920	0.933

NESC Heavy	CL10	Clamp	1256:WVGD2	0.000	0.156	0.920	0.933
NESC Heavy	CL11	Clamp	1256:WVGD3	0.000	0.156	0.920	0.933
NESC Heavy	CL12	Clamp	1256:WVGD4	0.000	0.156	0.920	0.933
NESC Heavy	CL13	Clamp	1256:WVGD5	0.000	0.156	0.920	0.933
NESC Heavy	CL14	Clamp	1256:WVGD6	0.000	0.156	0.920	0.933
NESC Heavy	CL15	Clamp	1256:WVGD7	0.000	0.233	1.380	1.400
NESC Heavy	CL17	Clamp	1256:TCTop	0.000	20.143	0.000	20.143
NESC Heavy	CL18	Clamp	1256:TCMid	0.000	1.902	8.973	9.172
NESC Heavy	CL19	Clamp	1256:TCBot	0.000	-20.143	0.000	20.143
NESC Heavy	CL20	Clamp	1256:BCTop	0.000	0.762	0.000	0.762
NESC Heavy	CL21	Clamp	1256:BCMid	0.000	0.354	1.567	1.606
NESC Heavy	CL22	Clamp	1256:BCBot	0.000	-0.762	0.000	0.762
NESC Extreme	CL1	Clamp	ARM1L:End	0.000	1.175	0.287	1.210
NESC Extreme	CL2	Clamp	ARM1R:End	0.000	1.175	0.287	1.210
NESC Extreme	CL3	Clamp	ARM2L:End	0.000	2.076	0.889	2.258
NESC Extreme	CL4	Clamp	ARM2R:END	0.000	2.076	0.889	2.258
NESC Extreme	CL5	Clamp	ARM3L:End	0.000	2.076	0.889	2.258
NESC Extreme	CL6	Clamp	ARM3R:END	0.000	2.076	0.889	2.258
NESC Extreme	CL7	Clamp	ARM4L:End	0.000	2.076	0.889	2.258
NESC Extreme	CL8	Clamp	ARM4R:END	0.000	2.076	0.889	2.258
NESC Extreme	CL9	Clamp	1256:WVGD1	0.000	0.455	0.250	0.519
NESC Extreme	CL10	Clamp	1256:WVGD2	0.000	0.455	0.250	0.519
NESC Extreme	CL11	Clamp	1256:WVGD3	0.000	0.455	0.250	0.519
NESC Extreme	CL12	Clamp	1256:WVGD4	0.000	0.455	0.250	0.519
NESC Extreme	CL13	Clamp	1256:WVGD5	0.000	0.455	0.250	0.519
NESC Extreme	CL14	Clamp	1256:WVGD6	0.000	0.455	0.250	0.519
NESC Extreme	CL15	Clamp	1256:WVGD7	0.000	0.683	0.374	0.779
NESC Extreme	CL17	Clamp	1256:TCTop	0.000	63.592	0.000	63.592
NESC Extreme	CL18	Clamp	1256:TCMid	0.000	5.266	3.512	6.330
NESC Extreme	CL19	Clamp	1256:TCBot	0.000	-63.592	0.000	63.592
NESC Extreme	CL20	Clamp	1256:BCTop	0.000	1.499	0.000	1.499
NESC Extreme	CL21	Clamp	1256:BCMid	0.000	0.694	0.621	0.931
NESC Extreme	CL22	Clamp	1256:BCBot	0.000	-1.499	0.000	1.499

Overturning Moments For User Input Concentrated Loads:

Moments are static equivalents based on central axis of 0,0.

Load Case	Total Tran. Load (kips)	Total Long. Load (kips)	Total Vert. Load (kips)	Transverse Overturning Moment (ft-k)	Longitudinal Overturning Moment (ft-k)
NESC Heavy	22.449	0.000	31.952	1820.446	-0.000
NESC Extreme	24.179	0.000	11.915	1920.782	-0.000

*** Weight of structure (lbs):
Weight of Tubular Davit Arms: 623.4
Weight of Steel Poles: 13397.1
Total: 14020.5

*** End of Report

NATCOMM INC
CONSULTING ENGINEERS
p: 203.488.0330 f: 203.488.3587 e: nat-eng.com
63-2 N. Branford Rd., Branford, CT 06405

Subject:	Anchor Bolt Analysis CL&P Pole #1256
Location:	Greenwich, CT
Rev. 0: 04/27/09	Prepared by: T.J.L. Checked by: C.F.C. Job No. 08174. CO6

Anchor Bolt Analysis:

Input Data:

Bolt Force:

Maximum Tensile Force = $T_{Max} := 146 \cdot kips$ (User Input from PLS-Pole)

Anchor Bolt Data:

Use ASTM A615 Grade 75

Number of Anchor Bolts = $N := 16$ (User Input)

Bolt "Column" Distance = $l := 3.0 \cdot in$ (User Input)

Bolt Ultimate Strength = $F_u := 100 \cdot ksi$ (User Input)

Bolt Yeild Strength= $F_y := 75 \cdot ksi$ (User Input)

Bolt Modulus = $E := 29000 \cdot ksi$ (User Input)

Diameter of Anchor Bolts = $D := 2.25 \cdot in$ (User Input)

Threads per Inch = $n := 4.5$ (User Input)

Anchor Bolt Analysis:

Calculated Anchor Bolt Properties:

Gross Area of Bolt = $A_g := \frac{\pi}{4} \cdot D^2 = 3.976 \cdot in^2$

Net Area of Bolt = $A_n := \frac{\pi}{4} \cdot \left(D - \frac{0.9743 \cdot in}{n}\right)^2 = 3.248 \cdot in^2$

Bolt Tension Check:

Allowable Tensile Force (Gross Area) = $T_{ALL.Gross} := 1.0 \cdot \left(0.33 \cdot A_g \cdot F_u\right) = 131.2 \cdot kips$

Allowable Tensile Force (Net Area) = $T_{ALL.Net} := 1.0 \cdot \left(0.60 \cdot A_n \cdot F_y\right) = 146.146 \cdot kips$

Bolt Tension % of Capacity = $\frac{T_{Max}}{T_{ALL.Net}} = 99.9 \cdot \%$

Condition1 = $Condition1 := if\left(\frac{T_{Max}}{T_{ALL.Net}} \le 1.00, "OK", "Overstressed"\right)$

Condition1 = "OK"

NATCOMM INC.
CONSULTING ENGINEERS
ph 203.488.0580 fx 203.488.8587 www.nat-eng.com
63-2 N. Branford Rd., Branford, CT 06405

Subject:	Foundation Analysis CL&P Pole #1256
Location:	Greenwich, CT
Rev. 0: 04/27/09	Prepared by: T.J.L. Checked by: C.F.C. Job No. 08174. CO6

CL&P Pole Foundation Analysis:

Input Data:

Pole Data

Moment =	$M := 1921 \cdot ft \cdot kips$	(User Input from RISA-Pole)	
Shear Force =	$Shear := 25 \cdot kip$	(User Input from RISA-Pole)	
Axial Force =	$Axial := 12 \cdot kip$	(User Input from RISA-Pole)	
Pole Height =	$H_t := 95 \cdot ft$	(User Input)	

Footing Data:

Length of Pier =	$L_p := 18.5 \cdot ft$	(User Input)	
Extension of Pier Above Grade =	$L_{pag} := 0.5 \cdot ft$	(User Input)	
Diameter of Pier =	$d_p := 10.0 \cdot ft$	(User Input)	

Material Properties:

Internal Friction Angle of Soil =	$\Phi_s := 30 \cdot deg$	(User Input)	
Allowable Soil Bearing Capacity =	$q_s := 6000 \cdot psf$	(User Input)	
Unit Weight of Soil =	$\gamma_{soil} := 100 \cdot pcf$	(User Input)	
Unit Weight of Concrete =	$\gamma_{conc} := 150 \cdot pcf$	(User Input)	
Foundation Bouyancy =	$Bouyancy := 0$	(User Input)	(Yes=1 / No=0)
Depth to Neglect =	$n := 0 \cdot ft$	(User Input)	
Cohesion of Clay Type Soil =	$c := 0 \cdot ksf$	(User Input)	(Use 0 for Sandy Soil)
Seismic Zone Factor =	$Z := 2$	(User Input)	(UBC-1997 Fig 23-2)
Coefficient of Friction Between Concrete =	$\mu := 0.45$	(User Input)	

Calculated Factors:

Coefficient of Lateral Soil Pressure =

$$K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 3$$

Load Factor =

$$LF := \begin{cases} 1.333 \text{ if } H_t \le 700 \cdot ft \\ 1.7 \text{ if } H_t \ge 1200 \cdot ft \\ 1.333 + \left(\frac{H_t - 700ft}{1200ft - 700ft}\right) \cdot 0.4 \text{ otherwise} \end{cases} = 1.333$$

Stability of Footing:

Adjusted Concrete Unit Weight = $\gamma_c := if(Bouyancy = 1, \gamma_{conc} - 62.4pcf, \gamma_{conc}) = 150 \cdot pcf$

Adjusted Soil Unit Weight = $\gamma_s := if(Bouyancy = 1, \gamma_{soil} - 62.4pcf, \gamma_{soil}) = 100 \cdot pcf$

Depth of Soil = $D_{soil} := L_p - L_{pag} = 18ft$

Passive Pressure = $P_p := \frac{1}{2} \cdot K_p \cdot \gamma_s \cdot D_{soil} = 2.7 \cdot ksf$

Area of Pasive Pressure = $A_p := d_p \cdot D_{soil} = 180ft^2$

Ultimate Shear = $S_u := P_p \cdot A_p = 486 \cdot kips$

Volume of Concrete = $V_{conc} := \frac{\pi}{4} \cdot d_p^2 \cdot L_p = 1453 \cdot ft^3$

Weight of Concrete = $W_{conc} := V_{conc} \cdot \gamma_c = 217.9 \cdot kips$

Top Diameter of Resisting Cone = $D_{top} := d_p = 10ft$

Bottom Diameter of Resisting Cone = $D_{bot} := d_p + 2 \cdot (D_{soil} \cdot \tan(\Phi_s)) = 30.8ft$

Total Volume of Resisting Cone = $V_{tot} := \pi \cdot \frac{D_{soil}}{3} \cdot \left[\left(\frac{D_{top}}{2} \right)^2 + \left(\frac{D_{top}}{2} \right) \cdot \left(\frac{D_{bot}}{2} \right) + \left(\frac{D_{bot}}{2} \right)^2 \right] = 6387.8 \cdot ft^3$

Volume of Concrete Below Grade = $V_{conc.bg} := \frac{\pi}{4} \cdot d_p^2 \cdot (D_{soil}) = 1413.7 \cdot ft^3$

Volume of Resisting Soil = $V_{soil} := V_{tot} - V_{conc.bg} = 4974.1 \cdot ft^3$

Weight of Soil = $W_{soil} := \frac{V_{soil}}{2} \cdot \gamma_s = 248.7 \cdot kips$

Resisting Moment = $M_r := (W_{conc} + Axial) \cdot \left(\frac{d_p}{2} \right) + S_u \cdot \frac{(D_{soil})}{3} + W_{soil} \cdot \left[d_p + \frac{(D_{soil} \cdot \tan(\Phi_s))}{3} \right]$

$M_r = 7414.3 \cdot ft \cdot kips$

Overturning Moment = $M_{ot} := M + Shear \cdot L_p = 2383.5 \cdot ft \cdot kips$

Factor of Safety Required = $FS_{req} := 1.5$

Actual Factor of Safety = $FS_{act} := \frac{M_r}{M_{ot}} = 3.1$

$Overturning := if(FS_{act} > FS_{req}, "OK", "NG")$

Overturning = "OK"

UMTS RFDS v2.0

T-Mobile

Site ID	CT11001B	Site Type	Co-Location.
Address	160 SOUND BEACH ROAD, Greenwich, CT, 6831	Latitude	41.033
		Longitude	-73.56732

TMO UMTS Engineer	M Lucey

GSM Impacted?	
Alpha	X
Beta	X
Gamma	X
Delta	

History (approvals)	Date
RFDS	11/04/08
GSM RF Acceptance	

RFDS Revision	2

Site Leasing/Zoning	Preliminary Leasing	Preliminary Zoning
* # of Sectors		---
* # of Antennas		not specified
Antenna Model	RR90-17-02DP	---
Antenna Size	---	not specified
* # of TMA	not specified	---
* # of Feeders	not specified	not specified
Feeder Diameter	not specified	not specified
Leased area (sq ft)	not specified	not specified
* # of Cabinets	not specified	
Cabinet Model	not specified	---
Site Comments	Cabinet reduction and antenna reduction re-using free'd up cabling.	

* Legend: Config under threshold | Config meets threshold | Config above threshold | Text / Not checked

GSM Information

Existing Configuration					Proposed Configuration			
Alpha	Beta	Gamma	Delta		Alpha	Beta	Gamma	Delta
110	110	110		Ant. Height (ft)	110	110	110	
NO	NO	NO		RET deployed	NO	NO	NO	
1 5/8"	1 5/8"	1 5/8"		Feeder Type	1 5/8"	1 5/8"	1 5/8"	
				Feeder Length (ft)	132	132	132	
3	3	2		# Current TRX	3	3	2	
3	3	2		# Forec. TRX	3	3	2	
				# of Nortel HePA				
S8000 outdoor				Cabinet Type	S8000 outdoor			
3				Cabinet #	2			

UMTS Information

Existing Configuration					Proposed Configuration			
Alpha	Beta	Gamma	Delta		Alpha	Beta	Gamma	Delta
---	---	---	---	Ant. Height (ft)	110	110	110	
---	---	---	---	RET deployed	YES	YES	YES	
---	---	---	---	Feeder Type	1 5/8"	1 5/8"	1 5/8"	
---	---	---	---	Feeder Length (ft)	132	132	132	
---				Cabinet Type	RBS 3106			
---				Cabinet #	1			

UMTS RFDS v2.0

T-Mobile

Site ID	CT11001B	Site Type	Co-Location.
Address	160 SOUND BEACH ROAD, Greenwich, CT, 6831	Latitude	41.033
		Longitude	-73.56732

TMO UMTS Engineer	M Lucey

GSM Impacted?

Alpha	X
Beta	X
Gamma	X
Delta	

History (approvals)	Date
RFDS	11/04/08
GSM RF Acceptance	

RFDS Revision	2

ALPHA

Existing Configuration					Proposed Configuration			
X	X	X	X	Mount	X	X		X
GSM Dual pole RR90-17-02DP EMS 60 -/-/-	GSM Dual pole RR90-17-02DP EMS 60 -/-/-	GSM Dual pole RR90-17-02DP EMS 60 -/-/-	GSM Dual pole RR90-17-02DP EMS 60 -/-/-	Antenna Deployed Ant. Type Ant. Model Ant. Vendor Azimuth E-Tilt (sw) M-Tilt	GSM Dual pole RR90-17-02DP EMS 60 -/-/-	UMTS Quad pole X16DWV-16DWVS-A RFS 80 3 0		GSM Dual pole RR90-17-02DP EMS 60 -/-/-
1 GMA/SMA 2	2	2	1 GMA/SMA 2	TMA # TMA Type Used Feeders	1 GMA/SMA 2	4		1 GMA/SMA 2

☐ GSM Lost Spatial Diversity

Req	OK	
		Add new Mount
		Relocate GSM antenna
X		Swap GSM antenna
X		Consolidate GSM feeders
		Add Twin TMA
		Swap single TMA with twin TMA
		Add Booster
		Add two new feeders for UMTS
X		Reuse GSM feeders for UMTS

Comments

Remove 2 middle dual antenna with 1 quad antenna for UMTS will all for free'd up coax. We will not touch 2G TMA's, nor add UMTS TMA's. We will need a homerun cable with UMTS antenna RET system daisy chained.

BETA

Existing Configuration					Proposed Configuration			
X	X	X	X	Mount	X	X		X
GSM Dual pole RR90-17-02DP EMS 180 -/-/-	GSM Dual pole RR90-17-02DP EMS 180 -/-/-	GSM Dual pole RR90-17-02DP EMS 180 -/-/-	GSM Dual pole RR90-17-02DP EMS 180 -/-/-	Antenna Deployed Ant. Type Ant. Model Ant. Vendor Azimuth E-Tilt (sw) M-Tilt	GSM Dual pole RR90-17-02DP EMS 180 -/-/-	UMTS Quad pole X16DWV-16DWVS-A RFS 180 3 0		GSM Dual pole RR90-17-02DP EMS 180 -/-/-
1 GMA/SMA 2	2	2	1 GMA/SMA 2	TMA # TMA Type Used Feeders	1 GMA/SMA 2	4		1 GMA/SMA 2

☐ GSM Lost Spatial Diversity

Req	OK	
		Add new Mount
		Relocate GSM antenna
X		Swap GSM antenna
X		Consolidate GSM feeders
		Add Twin TMA
		Swap single TMA with twin TMA
		Add Booster
		Add two new feeders for UMTS
X		Reuse GSM feeders for UMTS

Comments

Remove 2 middle dual antenna with 1 quad antenna for UMTS will all for free'd up coax. We will not touch 2G TMA's, nor add UMTS TMA's.

UMTS RFDS v2.0

T-Mobile

Site ID	CT11001B	Site Type	Co-Location.
Address	160 SOUND BEACH ROAD, Greenwich, CT, 6831	Latitude	41.033
		Longitude	-73.56732

TMO UMTS Engineer	M Lucey

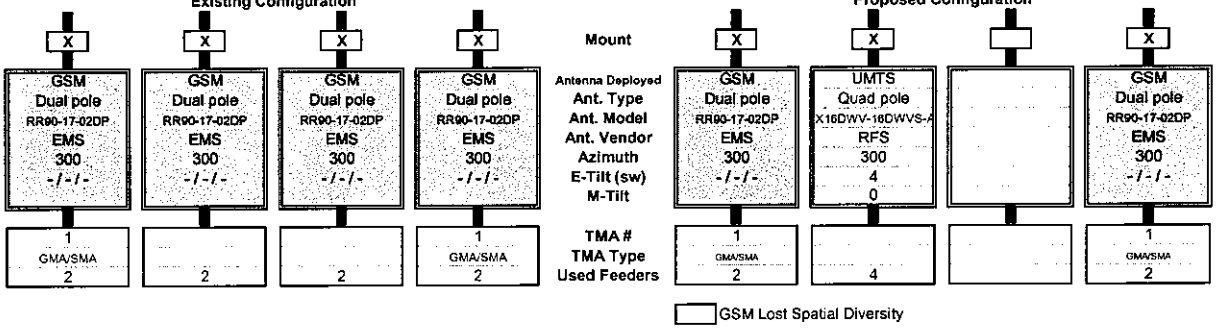
GSM Impacted?

Alpha	X
Beta	X
Gamma	X
Delta	

History (approvals)	Date
RFDS	11/04/08
GSM RF Acceptance	

RFDS Revision	2

GAMMA



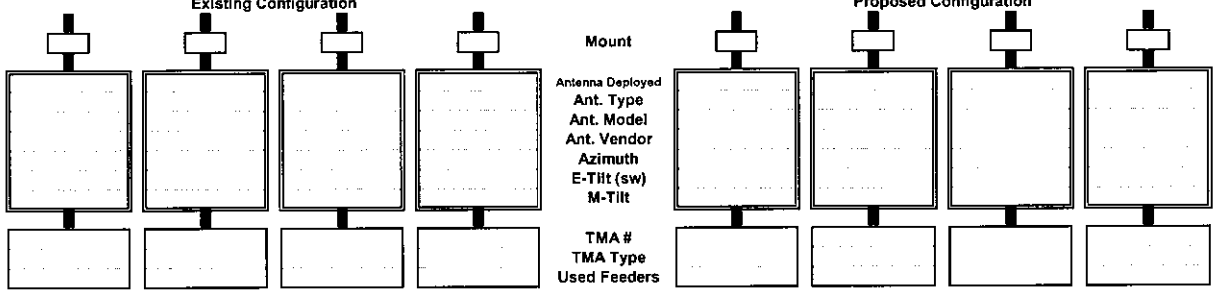
GSM Lost Spatial Diversity

Req	OK	
		Add new Mount
		Relocate GSM antenna
X		Swap GSM antenna
X		Consolidate GSM feeders
		Add Twin TMA
		Swap single TMA with twin TMA
		Add Booster
		Add two new feeders for UMTS
X		Reuse GSM feeders for UMTS

Comments

Remove 2 middle dual antenna with 1 quad antenna for UMTS will all for free'd up coax. We will not touch 2G TMA's, nor add UMTS TMA's.

DELTA



GSM Lost Spatial Diversity

Req	OK	
		Add new Mount
		Relocate GSM antenna
		Swap GSM antenna
		Consolidate GSM feeders
		Add Twin TMA
		Swap single TMA with twin TMA
		Add Booster
		Add two new feeders for UMTS
		Reuse GSM feeders for UMTS

Comments

Product Data Sheet APX16DWV-16DWVS-E-A20

Optimizer® Side-by-Side Dual Polarized Antenna, 1710-2200, 65deg, 18.4dBi, 1.4m, VET, 0-10deg RET

Product Description

A combination of two X-Polarized antennas in a single radome, this pair of variable tilt antennas provides exceptional suppression of all upper sidelobes at all downtilt angles. It also features a wide downtilt range. This antenna is optimized for performance across the entire frequency band (1710-2200 MHz). The antenna comes pre-connected with two antenna control units (ACU).

Features/Benefits

- **Variable electrical downtilt - provides enhanced precision in controlling intercell interference. The tilt is infield adjustable 0-10 deg.**
- **High Suppression of all Upper Sidelobes (Typically <-20dB).**
- **Gain tracking – difference between AWS UL (1710-1755 MHz) and DL (2110-2155 MHz) <1dB.**
- **Two X-Polarised panels in a single radome.**
- **Azimuth horizontal beamwidth difference <4deg between AWS UL (1710-1755 MHz) and DL (2110-2155 MHz).**
- **Low profile for low visual impact.**
- **Dual polarization; Broadband design.**
- **Includes (2) AISG 2.0 Compatible ACU-A20-N antenna control units.**

Technical Specifications

Electrical Specifications

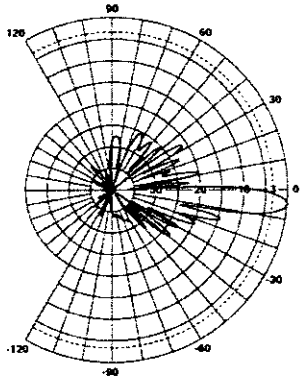
Frequency Range, MHz	1710-2200
Horizontal Beamwidth, deg	65
Vertical Beamwidth, deg	5.9 to 7.7
Electrical Downtilt, deg	0-10
Gain, dBi (dBd)	18.4 (16.3)
1st Upper Sidelobe Suppression, dB	> 18 (typically > 20)
Upper Sidelobe Suppression, dB	> 18 all (typically > 20)
Front-To-Back Ratio, dB	>26 (typically 28)
Polarization	Dual pol +/-45°
VSWR	< 1.5:1
Isolation between Ports, dB	> 30
3rd Order IMP @ 2 x 43 dBm, dBc	> 150 (155 Typical)
Impedance, Ohms	50
Maximum Power Input, W	300
Lightning Protection	Direct Ground
Connector Type	(4) 7-16 Long Neck Female

Mechanical Specifications

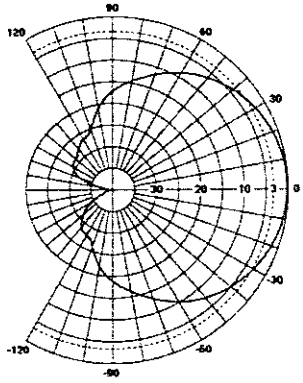
Dimensions - HxWxD, mm (in)	1420 x 331 x 80 (55.9 x 13 x 3.15)
Weight w/o Mtg Hardware, kg (lb)	18.5 (40.7)
Survival Wind Speed, km/h (mph)	200 (125)
Rated Wind Speed, km/h (mph)	160 (100)
Max Wind Loading Area, m² (ft²)	0.47 (5.03)
Front Thrust @ Rated Wind, N (lbf)	756 (170)
Maximum Thrust @ Rated Wind, N (lbf)	756 (170)
Wind Load - Side @ Rated Wind, N (lbf)	231 (52)
Wind Load - Rear @ Rated Wind, N (lbf)	408 (92)
Radome Material	Fiberglass
Radome Color	Light Grey RAL7035
Mounting Hardware Material	Diecasted Aluminum
Shipping Weight, kg (lb)	24.5 (53.9)
Packing Dimensions, HxWxD, mm (in)	1520 x 408 x 198 (59.8 x 16 x 7.8)

Ordering Information

Mounting Hardware	APM40-2 + APM40-E2



Vertical Pattern



Horizontal Pattern

EMS Wireless

RR90-17-XXDP

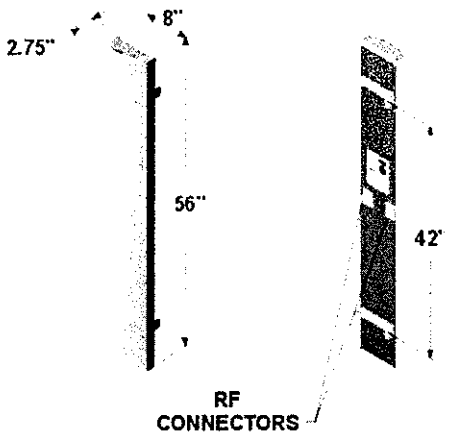
DualPol® Polarization

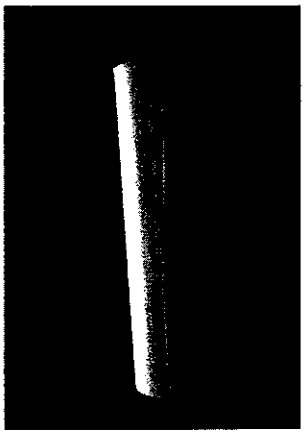
1850 MHz - 1990 MHz

OptiRange™

Electrical Specifications

Azimuth Beamwidth	90°
Elevation Beamwidth	6.8°
Gain	16.5 dBi (14.4 dBd)
Polarization	Dual Linear Slant (± 45°)
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	> 34 dB
Electrical Downtilt Options	0°, 2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	2; 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	≤ -150 dBc [2 x 20 W (+ 43 dBm)]
Lightning Protection	Chassis Ground





Mechanical Specifications

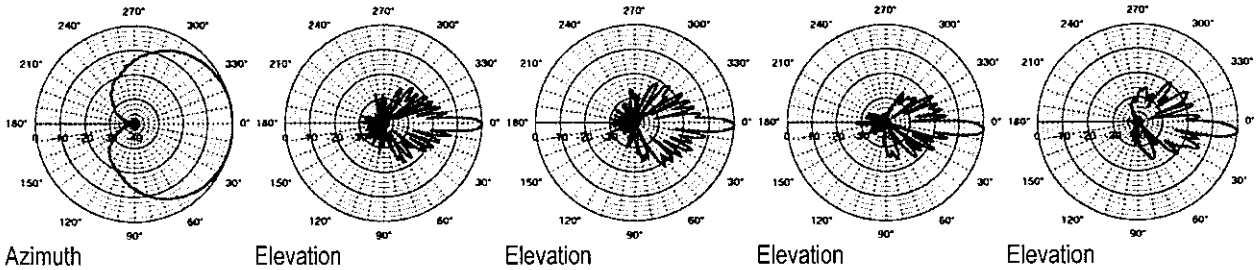
Dimensions (L x W x D)	56 in x 8 in x 2.75 in (142 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	3.1ft² (.29 m²)
Front Wind Load @ 100 mph (161 kph)	92 lbs (409 N)
Side Wind Load @ 100 mph (161 kph)	31lbs (139 N)
Weight (Without Mounting Kit)	13.5 lbs (6.2 kg)

Mounting Options

MTG-P00-10, MTG-S02-10, MTG-DXX-20*, MTG-CXX-10*, MTG-C02-10, MTG-TXX-10*

*Note: *Model number shown represents a series of products. See Mounting Options section for specific model number.*

Patterns



Azimuth | Elevation 0° Downtilt | Elevation 2° Downtilt | Elevation 4° Downtilt | Elevation 6° Downtilt

Revised 04/21/04

+1 770.582.0555 ext. 5310 • Fax +1 770.729.0036
www.emswireless.com

T-Mobile

T-Mobile USA Inc.
35 Griffin Rd South, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: HPC
From: Farid Marbouh - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11001B
Date: August 24, 2009

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a Utility Lattice Tower at 160 SOUND BEACH ROAD, Structure # 1256, Greenwich, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

1) The emissions from T-Mobile transmitters are in the (1940-1949.8), (2140-2145), (2110-2120)MHz frequency Band.
2) The antenna array consists of three sectors, with 3 antennas per sector.
3) The model number for GSM antenna is RR90-17-02DP.
3) The model number for UMTS antenna is APX16DWV-16DWV.
4) GSM antenna center line height is 110 ft.
4) UMTS antenna center line height is 110 ft.
5) The maximum transmit power from any GSM sector is 1782.38 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
5) The maximum transmit power from any UMTS sector is 2511.71 Watts Effective Radiated Power (EiRP) assuming 2 channels per sector.
6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
7) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
8) The average ground level of the studied area does not change significantly with respect to the transmitting location

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile PCS antenna installation on a Utility Lattice Tower at 160 SOUND BEACH ROAD, Structure # 1256, Greenwich, CT, is 0.0871 mW/cm^2. This value represents 8.71% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.

Connecticut Market

T-Mobile

Worst Case Power Density

Site:	**CT11001B**
Site Address:	**160 SOUND BEACH ROAD, Structure # 1256**
Town:	**Greenwich**
Tower Height:	**95 ft.**
Tower Style:	**Utility Lattice Tower**

GSM Data		**UMTS Data**	
Base Station TX output	20 W	**Base Station TX output**	40 W
Number of channels	8	**Number of channels**	2
Antenna Model	RR90-17-02DP	**Antenna Model**	APX16DWV-16DWV
Cable Size	1 5/8 in.	**Cable Size**	1 5/8 in.
Cable Length	132 ft.	**Cable Length**	132 ft.
Antenna Height	110.0 ft.	**Antenna Height**	110.0 ft.
Ground Reflection	1.6	**Ground Reflection**	1.6
Frequency	1945.0 MHz	**Frequency**	2.1 GHz
Jumper & Connector loss	4.50 dB	**Jumper & Connector loss**	1.50 dB
Antenna Gain	16.5 dBi	**Antenna Gain**	18.0 dBi
Cable Loss per foot	0.0116 dB	**Cable Loss per foot**	0.0116 dB
Total Cable Loss	1.5312 dB	**Total Cable Loss**	1.5312 dB
Total Attenuation	6.0312 dB	**Total Attenuation**	3.0312 dB
Total EIRP per Channel	53.48 dBm	**Total EIRP per Channel**	60.99 dBm
(In Watts)	222.80 W	**(In Watts)**	1255.86 W
Total EIRP per Sector	62.51 dBm	**Total EIRP per Sector**	64.00 dBm
(In Watts)	1782.38 W	**(In Watts)**	2511.71 W
nsg	10.4688	**nsg**	14.9688
Power Density (S) =	**0.036154 mW/cm^2**	**Power Density (S) =**	**0.050948 mW/cm^2**
T-Mobile Worst Case % MPE =		**8.7101%**	

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power)^* 10^{(nsg/10)}}{4\pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total

Carrier	**% of Standard**
Verizon	
Cingular	
Sprint	
AT&T Wireless	
Nextel	
MetroPCS	
Other Antenna Systems	
Total Excluding T-Mobile	**0.0000 %**
T-Mobile	8.7101
Total % MPE for Site	**8.7101%**