LA-UR-11-11288
Approved for public release; distribution is unlimited.

Title:	Safety Related HVAC Control Dampers
Author(s):	Spitzmiller, TJ
Intended for:	DOE Safety Related HVAC Control Air quality Reading Room NA

LA-UR-

Approved for public release; distribution is unlimited.

Title:	Statement of Work for Safety Related HVAC Control Dampers
Author(s):	Michael A. Murphy TJ Spitzmiller
Intended for:	Fed Biz Ops Green Network External Trade Advertising

Los Alamos
NATIONAL LABORATORY
EST. 1943

Form 836 (7/06)

Los Alamos NATIONAL LABORATORY EST.1943

Technical Information Release
SAFE-1 Classification Group

Reserved for Classification Group (SAFE-1) **LA-UR** **LA-CP**	**Submit to Classification Group (SAFE-1), MS F674, TA-3-1400, Rm 3475**, the following, in order and clipped (not stapled) together: ✓ This form, blocks 1-9 completed ✓ Appropriate cover sheet (Form 836 for LA-UR, Form 1756a-e for LA-CP) ✓ **1 copy** of STI product Allow 5 working days for processing.

1. Author(s) (*Include all contributing authors; first must be LANL employee.*)

Last	First	Middle	Z No.	Group or affiliation
Murphy	Michael	A	234956	ASM-DEP
Spitzmiller	TJ		306588	ASM-DEP

2. Primary Responsible Author: *My signature attests to the integrity and validity of the information provided on this form and the associated STI product, and affirms that all authors concur with its publication.*

Printed Name	Signature	Date
TJ Spitzmiller	K Murphy for TJ SPITZMILLER	8-11-11

3. Document Title (use upper/lower case; spell out symbols)
Safety Related HVAC Controlled Dampers

4. Page/Image Count 26

5. Type of Information
☐ Abstract ☐ Full Paper/Report
☐ Summary ☐ Poster
☐ Audio-Visual (*abstract required*)
☐ Viewgraphs/Presentations (*abstract required*)
☒ Other: SOW

Intended for:
☐ Journal ☐ Proceedings ☐ Meeting/Conference ☐ Book/Book Chapter
☒ Electronic/World-wide Web ☒ Other: Green Network

Particulars: (**see point # 4 of instruction sheet.**)
Meeting/Conf. Name: Fed Biz Ops
City, State, and Country: _____ Mtg. Date: _____
Journal Name: _____
Other: External Trade Advertising

6. Research sponsored by
☒ DOE/LANL/LDRD ☐ DHS ☐ DOD
☐ Other: _____

Cost Center (Org./Group Code) and Program Code for this work:
Related publication(s):

7. Deadline Date

Z Number, name, e-mail, and phone number of contact for notification of release

8. Classification Category (***Cite applicable DUSA or obtain Derivative Classifier review***)
☐ Unclassified
Applicable DUSA Designator:

☒ Unclassified ☐ Classified ☐ Unclassified, controlled; Category: _____
OR | Derivative Classifier Name: Leroy Martinez | Signature: Leroy Martinez | Date: 8/11/11

9. Responsible Line Manager: *Consistent with my responsibilities and authorities, my signature certifies that I have reviewed this STI product for professional, contractual, programmatic, institutional, OPSEC, and patent sensitivities, and that I concur with its publication.*

Printed Name	Signature	Date
Michael A. Murphy	Michael A Murphy	8-11-2011

To be completed by Classification Group, SAFE-1

Date Received	OSTI Category	Date Released
Classification Analyst Signature	Classification Category: ☐ U ☐ C ☐ S ☐ RD ☐ FRD ☐ NSI ☐ UCNI ☐ OUO ☐ ECI ☐ Other: ____	
Comments:		

Form 678 (05/10)

Notice for Federal Business Opportunities

(Note: fields in **bold purple** below are mandatory within the FBO system.)

General Information

Document Type: Sources Sought

Solicitation Number: 153776
Title: Safety Related HVAC Control Dampers.

Response Date: 8/22/11

Classification Code: 12
Set Aside: N/A
NAICS: 332322 and 334512

Is this a Recovery Act project? (No)

Contracting Office Address

Department of Energy, Los Alamos National Laboratory (DOE Contractor), PO Box 1663 MS D442, Los Alamos, NM 87545.

Description: (**NOTE**: This can be brief with listing of your other documents. No need to do a separate description from the Scope of Work or other information you may already have for posting to the LANL Green site. We're able to upload **exactly** what you prepare for LANL Green posting using a link to the document.)

Point Of Contact:

TJ Spitzmiller
tjspitz@lanl.gov

Mike Murphy
mamurphy@lanl.gov

Theresa Paisano
theresap@lanl.gov

Los Alamos
NATIONAL LABORATORY
EST.1943

Request For Expression of Interest

Design, Fabricate, and Deliver

Safety Related HVAC Control Dampers

For

The Chemistry & Metallurgy Research Replacement (CMRR) Facility.

Los Alamos National Laboratory (LANL) is seeking Expressions of Interest and Prequalification Data from qualified firms for the services described below.

GENERAL NOTES:

The Chemistry and Metallurgy Research Replacement (CMRR) Project is issuing Requests for Expressions of Interest and Prequalification Data (REO) for potential procurements of engineered equipment for the planned CMRR Nuclear Facility at the Los Alamos National laboratory. A bidders list will be developed for each type of engineered equipment to be procured. This action will be followed by issuance of formal Requests for Proposal (RFP) and the bid, evaluate, award (BEA) cycle will follow. The successful bidder will be released to perform design activities upon award.

The balance of the work (material purchase, fabrication, delivery) will be released upon completion of the Supplemental Environmental Impact Study (SEIS), the Record of Decision (ROD), and National Nuclear Security Administration's (NNSA) authorization to proceed.

The reason for proceeding in this manner is to resolve design criteria, allow for design progress, and reduce design risk without reaching a final design that commits the agency to a single option.

This request does not represent any confirmation by LANS of inclusion on the final bidders list, notification of subcontract award or authorization to commence any work related to this request. Equipment fabrication is not currently authorized and will be dependent upon Government approval after the NEPA process is complete.

SCOPE OF WORK:

The CMRR Project will need Safety Related HVAC Control Dampers for the CMRR Nuclear Facility HVAC system at Technical Area 55 of the Los Alamos National Laboratory (LANL). There are a total of 368 damper assemblies in varying sizes and configurations such as:

Safety Class (SC) Back Draft Dampers:	6 Assemblies,
Safety Significant (SS) Back Draft Dampers:	119 Assemblies,
SS Motor Actuated Modulating Dampers:	90 Assemblies,
SS Motor Actuated Isolation Dampers:	27 Assemblies,
SS Manual Isolation Dampers:	126 Assemblies,

as indicated in Table 1 attached.

The Safety Related HVAC Control Dampers shall be constructed to meet and exceed the functional requirements and quality standards defined by ASME AG-1-2003, Code on Nuclear Air and Gas Treatment, and NQA-1 2008 with 2009 addenda, Quality Assurance Requirements for Nuclear Facility Applications. Additional requirements include but are not limited to:

To meet seismic qualification requirements for Performance Category PC-2, and PC-3.
To provide ventilation zone control and separation.
Damper testing according to ANSI/AMCA 500-D, Laboratory Methods of Testing Dampers for Rating, 2007.

To provide testing for the requirements identified above.

Installation of the dampers will be done by others under the supervision of the successful bidder.

Supplier Requirements:

Demonstrated safety performance equal to or lower than the following standards:

Statistical Standards		
Experience Modification Rate	The "EMR" is a number that is assigned to your company based on the insurance premium you pay and your loss statistics. Contact your insurance company for these numbers.	Maximum Allowable Average: 1.00
Total Recordable Injury/Illness Case Rate (from Company OSHA 300 log)	Rate = Total Recordable Injuries/Illnesses x 200,000 Total Employee Hours Worked	Maximum Allowable Average: 3.2
DART Case Rate (Days Away From Work, Restriction, or Job Transfer) (from Company OSHA 300 log)	Rate = Total Days Away/Restricted/Transferred Work Day Cases x 200,000 Total Employee Hours Worked	Maximum Allowable Average: 1.4

- Minimum of 5 years experience providing like equipment
- Provide your Organizational structure
- Table of contents from your Quality Assurance Manual and completion of the attached Quality Questionnaire.
- Listing of references who can confirm your capabilities. References must be based on work performed within the last 5 years, but with an emphasis on the last 3 years.

Interested contractors that meet the above criteria may contact Mike Murphy, CMRR Purchasing Manager (mamurphy@lanl.gov), TJ Spitzmiller, CMRR Procurement (tjspitz@lanl.gov) or Theresa Paisano (theresap@lanl.gov).

	Status	Damper No	Damper Type	Blade Type	Service	P&ID No	Design Flow Rate (ACFM)[1, a]	Leakage Type[2]	Duct Shape[3]	Material Type	Fail Pos[3]	Safety Class[4]	Seismic Class[5]	ML[5]	Lim. Switch / Pos. Trans.[6]	Actuator Type[7]	Actuator Orientation[8]
1		HVAV-DMP-0001A	Manu. Iso.	Parallel Blade	ISOLATION	MH-66801	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
2		HVAV-DMP-0002A	Manu. Iso.	Parallel Blade	ISOLATION	MH-66801	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
3		HVAV-DMP-0001B	Manu. Iso.	Parallel Blade	ISOLATION	MH-66804	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
4		HVAV-DMP-0002B	Manu. Iso.	Parallel Blade	ISOLATION	MH-66804	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
5		HVAV-VC-0004	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
6		HVAV-VC-0005	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
7		HVAV-VC-0006	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
8		HVAV-VC-0007	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
9		HVAV-VC-0008	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
10		HVAV-VC-0009	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
11		HVAV-VC-0010	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
12		HVAV-VC-0011	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
13		HVAV-VC-0012	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
14		HVAV-VC-0013	Backdraft	Parallel Blade	ISOLATION	MH-66807	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
15		HVAV-VC-0001	Backdraft	Parallel Blade	ISOLATION	MH-66808	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
16		HVAV-VC-0002	Backdraft	Parallel Blade	ISOLATION	MH-66808	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
17		HVAV-VC-0003	Backdraft	Parallel Blade	ISOLATION	MH-66808	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
18		HVAV-VC-0014	Backdraft	Parallel Blade	ISOLATION	MH-66809	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
19		HVAV-VC-0015	Backdraft	Parallel Blade	ISOLATION	MH-66809	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
20		HVAV-VC-0016	Backdraft	Parallel Blade	ISOLATION	MH-66809	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
21		HVZ1-DMP-0200	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66900	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
22		HVZ1-DMP-0201	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66901	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
23		HVZ1-DMP-0202	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66902	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
24		HVZ1-DMP-0001	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
25		HVZ1-DMP-0002	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
26		HVZ1-DMP-0003	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
27		HVZ1-DMP-0004	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
28		HVZ1-DMP-0005	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
29		HVZ1-DMP-0006	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
30		HVZ1-DMP-0007	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
31		HVZ1-DMP-0008	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
32		HVZ1-DMP-0009	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
33		HVZ1-DMP-0010	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
34		HVZ1-DMP-0011	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
35		HVZ1-DMP-0012	Manu. Iso.	Parallel Blade	ISOLATION	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
36		HVZ1-DMP-0203	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
37		HVZ1-DMP-0204	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66903	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
38		HVZ1-DMP-0013A	Manu. Iso.	Parallel Blade	ISOLATION	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
39		HVZ1-DMP-0013B	Manu. Iso.	Parallel Blade	ISOLATION	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
40		HVZ1-DMP-0013C	Manu. Iso.	Parallel Blade	ISOLATION	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
41		HVZ1-DMP-0020	Manu. Iso.	Parallel Blade	ISOLATION	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
42		HVZ1-DMP-0021	Manu. Iso.	Parallel Blade	ISOLATION	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
43		HVZ1-DMP-0205A	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
44		HVZ1-DMP-0205B	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
45		HVZ1-DMP-0205C	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
46		HVZ1-DMP-0206	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66904	(LATER)	A/I	(LATER)	STAINLESS	FC	SS	PC3	ML2	POS	Electric	(LATER)
47		HVZ1-DMP-0014	Manu. Iso.	Parallel Blade	ISOLATION	MH-66905	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
48		HVZ1-DMP-0017	Manu. Iso.	Parallel Blade	ISOLATION	MH-66905	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
49		HVZ1-DMP-0207	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66905	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
50		HVZ1-DMP-0015	Manu. Iso.	Parallel Blade	ISOLATION	MH-66906	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
51		HVZ1-DMP-0018	Manu. Iso.	Parallel Blade	ISOLATION	MH-66906	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
52		HVZ1-DMP-0208	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66906	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
53		HVZ1-DMP-0016	Manu. Iso.	Parallel Blade	ISOLATION	MH-66907	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
54		HVZ1-DMP-0019	Manu. Iso.	Parallel Blade	ISOLATION	MH-66907	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
55		HVZ1-DMP-0209	Motor Act. Mod.	Opposed Blade	CONTROL	MH-66907	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
56		HVZ2-DMP-0002AA	Manu. Iso.	Parallel Blade	ISOLATION	MH-67000	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
57		HVZ2-DMP-0002AB	Manu. Iso.	Parallel Blade	ISOLATION	MH-67000	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
58		HVZ2-DMP-0002BA	Manu. Iso.	Parallel Blade	ISOLATION	MH-67003	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
59		HVZ2-DMP-0002BB	Manu. Iso.	Parallel Blade	ISOLATION	MH-67003	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
60		HVZ2-DMP-0002CA	Manu. Iso.	Parallel Blade	ISOLATION	MH-67006	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
61		HVZ2-DMP-0002CB	Manu. Iso.	Parallel Blade	ISOLATION	MH-67006	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
62		HVZ2-VC-0120	Backdraft	Parallel Blade	ISOLATION	MH-67010	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
63		HVZ2-DMP-0120	Manu. Iso.	Parallel Blade	ISOLATION	MH-67010	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
64		HVZ2-DMP-0269	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67010	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
65		HVZ2-VC-0119	Backdraft	Parallel Blade	ISOLATION	MH-67011	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)

	Status	Damper No	Damper Type	Blade Type	Service	P&ID No	Design Flow Rate (ACFM)[1,8]	Leakage Type[2]	Duct Shape[5]	Material Type	Fail Pos[3]	Safety Class[4]	Seismic Class[5]	ML[9]	Lim. Switch / Pos. Trans.[6]	Actuator Type[7]	Actuator Orientation[8]
66		HVZ2-DMP-0119	Manu. Iso.	Parallel Blade	ISOLATION	MH-67011	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
67		HVZ2-DMP-0268	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67011	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
68		HVZ2-VC-0118	Backdraft	Parallel Blade	ISOLATION	MH-67012	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
69		HVZ2-DMP-0118	Manu. Iso.	Parallel Blade	ISOLATION	MH-67012	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
70		HVZ2-DMP-0267	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67012	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
71		HVZ2-VC-0117	Backdraft	Parallel Blade	ISOLATION	MH-67013	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
72		HVZ2-DMP-0117	Manu. Iso.	Parallel Blade	ISOLATION	MH-67013	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
73		HVZ2-DMP-0266	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67013	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
74		HVZ2-VC-0116	Backdraft	Parallel Blade	ISOLATION	MH-67014	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
75		HVZ2-DMP-0116	Manu. Iso.	Parallel Blade	ISOLATION	MH-67014	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
76		HVZ2-DMP-0265	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67014	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
77		HVZ2-DMP-0250	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67015	(LATER)	A/I	(LATER)	STAINLESS	FC	SS	PC3	ML2	POS	Electric	(LATER)
78		HVZ2-VC-0115	Backdraft	Parallel Blade	ISOLATION	MH-67016	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
79		HVZ2-DMP-0115	Manu. Iso.	Parallel Blade	ISOLATION	MH-67016	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
80		HVZ2-DMP-0261	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67016	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
81		HVZ2-DMP-0264	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67016	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
82		HVZ2-VC-0114	Backdraft	Parallel Blade	ISOLATION	MH-67017	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
83		HVZ2-DMP-0114	Manu. Iso.	Parallel Blade	ISOLATION	MH-67017	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
84		HVZ2-DMP-0263	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67017	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
85		HVZ2-VC-0113	Backdraft	Parallel Blade	ISOLATION	MH-67018	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
86		HVZ2-DMP-0113	Manu. Iso.	Parallel Blade	ISOLATION	MH-67018	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
87		HVZ2-DMP-0262	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67018	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
88		HVZ2-VC-0112	Backdraft	Parallel Blade	ISOLATION	MH-67019	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
89		HVZ2-DMP-0112	Manu. Iso.	Parallel Blade	ISOLATION	MH-67019	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
90		HVZ2-DMP-0261	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67019	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
91		HVZ2-VC-0111	Backdraft	Parallel Blade	ISOLATION	MH-67020	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
92		HVZ2-DMP-0111	Manu. Iso.	Parallel Blade	ISOLATION	MH-67020	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
93		HVZ2-DMP-0260	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67020	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
94		HVZ2-VC-0220	Backdraft	Parallel Blade	ISOLATION	MH-67022	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
95		HVZ2-DMP-0240	Manu. Iso.	Parallel Blade	ISOLATION	MH-67022	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
96		HVZ2-DMP-0279	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67022	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
97		HVZ2-VC-0219	Backdraft	Parallel Blade	ISOLATION	MH-67023	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
98		HVZ2-DMP-0239	Manu. Iso.	Parallel Blade	ISOLATION	MH-67023	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
99		HVZ2-DMP-0278	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67023	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
100		HVZ2-VC-0218	Backdraft	Parallel Blade	ISOLATION	MH-67024	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
101		HVZ2-DMP-0238	Manu. Iso.	Parallel Blade	ISOLATION	MH-67024	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
102		HVZ2-DMP-0277	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67024	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
103		HVZ2-VC-0217	Backdraft	Parallel Blade	ISOLATION	MH-67025	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
104		HVZ2-DMP-0237	Manu. Iso.	Parallel Blade	ISOLATION	MH-67025	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
105		HVZ2-DMP-0276	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67025	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
106		HVZ2-VC-0216	Backdraft	Parallel Blade	ISOLATION	MH-67026	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
107		HVZ2-DMP-0236	Manu. Iso.	Parallel Blade	ISOLATION	MH-67026	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
108		HVZ2-DMP-0275	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67026	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
109		HVZ2-VC-0215	Backdraft	Parallel Blade	ISOLATION	MH-67028	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
110		HVZ2-DMP-0235	Manu. Iso.	Parallel Blade	ISOLATION	MH-67028	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
111		HVZ2-DMP-0202	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67028	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
112		HVZ2-DMP-0274	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67028	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
113		HVZ2-VC-0214	Backdraft	Parallel Blade	ISOLATION	MH-67029	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
114		HVZ2-DMP-0234	Manu. Iso.	Parallel Blade	ISOLATION	MH-67029	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
115		HVZ2-DMP-0273	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67029	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
116		HVZ2-VC-0213	Backdraft	Parallel Blade	ISOLATION	MH-67030	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
117		HVZ2-DMP-0233	Manu. Iso.	Parallel Blade	ISOLATION	MH-67030	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
118		HVZ2-DMP-0272	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67030	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
119		HVZ2-VC-0212	Backdraft	Parallel Blade	ISOLATION	MH-67031	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
120		HVZ2-DMP-0232	Manu. Iso.	Parallel Blade	ISOLATION	MH-67031	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
121		HVZ2-DMP-0271	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67031	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
122		HVZ2-VC-0211	Backdraft	Parallel Blade	ISOLATION	MH-67032	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
123		HVZ2-DMP-0231	Manu. Iso.	Parallel Blade	ISOLATION	MH-67032	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
124		HVZ2-DMP-0270	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67032	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
125		HVZ2-VC-0320	Backdraft	Parallel Blade	ISOLATION	MH-67034	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
126		HVZ2-DMP-0320	Manu. Iso.	Parallel Blade	ISOLATION	MH-67034	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
127		HVZ2-DMP-0269	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67034	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
128		HVZ2-VC-0319	Backdraft	Parallel Blade	ISOLATION	MH-67035	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
129		HVZ2-DMP-0319	Manu. Iso.	Parallel Blade	ISOLATION	MH-67035	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
130		HVZ2-DMP-0268	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67035	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)

	Status	Damper No	Damper Type	Blade Type	Service	P&ID No	Design Flow Rate (ACFM)[1,8]	Leakage Type[2]	Duct Shape[3]	Material Type	Fail Pos[3]	Safety Class[4]	Seismic Class[5]	ML[9]	Lim. Switch / Pos. Trans.[6]	Actuator Type[7]	Actuator Orientation[8]
131		HVZ2-VC-0318	Backdraft	Parallel Blade	ISOLATION	MH-67036	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
132		HVZ2-DMP-0318	Manu. Iso.	Parallel Blade	ISOLATION	MH-67036	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
133		HVZ2-DMP-0287	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67036	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
134		HVZ2-VC-0317	Backdraft	Parallel Blade	ISOLATION	MH-67037	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
135		HVZ2-DMP-0317	Manu. Iso.	Parallel Blade	ISOLATION	MH-67037	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
136		HVZ2-DMP-0286	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67037	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
137		HVZ2-VC-0316	Backdraft	Parallel Blade	ISOLATION	MH-67038	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
138		HVZ2-DMP-0316	Manu. Iso.	Parallel Blade	ISOLATION	MH-67038	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
139		HVZ2-DMP-0285	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67038	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
140		HVZ2-VC-0315	Backdraft	Parallel Blade	ISOLATION	MH-67040	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
141		HVZ2-DMP-0315	Manu. Iso.	Parallel Blade	ISOLATION	MH-67040	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
142		HVZ2-DMP-0284	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67040	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
143		HVZ2-VC-0314	Backdraft	Parallel Blade	ISOLATION	MH-67041	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
144		HVZ2-DMP-0314	Manu. Iso.	Parallel Blade	ISOLATION	MH-67041	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
145		HVZ2-DMP-0283	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67041	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
146		HVZ2-DMP-0283	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67041	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
147		HVZ2-VC-0313	Backdraft	Parallel Blade	ISOLATION	MH-67042	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
148		HVZ2-DMP-0313	Manu. Iso.	Parallel Blade	ISOLATION	MH-67042	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
149		HVZ2-DMP-0282	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67042	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
150		HVZ2-VC-0312	Backdraft	Parallel Blade	ISOLATION	MH-67043	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
151		HVZ2-DMP-0312	Manu. Iso.	Parallel Blade	ISOLATION	MH-67043	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
152		HVZ2-DMP-0281	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67043	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
153		HVZ2-VC-0311	Backdraft	Parallel Blade	ISOLATION	MH-67044	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
154		HVZ2-DMP-0311	Manu. Iso.	Parallel Blade	ISOLATION	MH-67044	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
155		HVZ2-DMP-0280	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67044	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
156		HVZ2-VC-0013	Backdraft	Parallel Blade	ISOLATION	MH-67045	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
157		HVZ2-DMP-0121	Manu. Iso.	Parallel Blade	ISOLATION	MH-67045	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
158		HVZ2-DMP-0290	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67045	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
159		HVZ2-DMP-0005	Manu. Iso.	Parallel Blade	ISOLATION	MH-67047	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
160		HVZ2-DMP-0006	Manu. Iso.	Parallel Blade	ISOLATION	MH-67047	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
161		HVZ2-DMP-0030	Manu. Iso.	Parallel Blade	ISOLATION	MH-67047	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
162		HVZ2-DMP-0031	Manu. Iso.	Parallel Blade	ISOLATION	MH-67047	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
163		HVZ2-DMP-0251	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67047	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
164		HVZ2-DMP-0003	Manu. Iso.	Parallel Blade	ISOLATION	MH-67048	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
165		HVZ2-DMP-0004	Manu. Iso.	Parallel Blade	ISOLATION	MH-67048	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
166		HVZ2-DMP-0032	Manu. Iso.	Parallel Blade	ISOLATION	MH-67048	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
167		HVZ2-DMP-0033	Manu. Iso.	Parallel Blade	ISOLATION	MH-67048	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
168		HVZ2-DMP-0206	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67049	(LATER)	A/I	(LATER)	STAINLESS	FC	SS	PC3	ML2	POS	Electric	(LATER)
169		HVZ2-DMP-0007	Manu. Iso.	Parallel Blade	ISOLATION	MH-67053	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
170		HVZ2-DMP-0014	Manu. Iso.	Parallel Blade	ISOLATION	MH-67053	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
171		HVZ2-DMP-0207	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67053	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
172		HVZ2-DMP-0008	Manu. Iso.	Parallel Blade	ISOLATION	MH-67054	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
173		HVZ2-DMP-0015	Manu. Iso.	Parallel Blade	ISOLATION	MH-67054	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
174		HVZ2-DMP-0208	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67054	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
175		HVZ2-DMP-0009	Manu. Iso.	Parallel Blade	ISOLATION	MH-67055	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
176		HVZ2-DMP-0016	Manu. Iso.	Parallel Blade	ISOLATION	MH-67055	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
177		HVZ2-DMP-0209	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67055	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
178		HVZ2-DMP-0010	Manu. Iso.	Parallel Blade	ISOLATION	MH-67056	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
179		HVZ2-DMP-0017	Manu. Iso.	Parallel Blade	ISOLATION	MH-67056	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
180		HVZ2-DMP-0210	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67056	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
181		HVZ2-DMP-0011	Manu. Iso.	Parallel Blade	ISOLATION	MH-67057	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
182		HVZ2-DMP-0018	Manu. Iso.	Parallel Blade	ISOLATION	MH-67057	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
183		HVZ2-DMP-0211	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67057	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
184		HVZ2-DMP-0012	Manu. Iso.	Parallel Blade	ISOLATION	MH-67058	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
185		HVZ2-DMP-0019	Manu. Iso.	Parallel Blade	ISOLATION	MH-67058	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
186		HVZ2-DMP-0212	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67058	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
187		HVZ2-DMP-0013	Manu. Iso.	Parallel Blade	ISOLATION	MH-67059	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
188		HVZ2-DMP-0020	Manu. Iso.	Parallel Blade	ISOLATION	MH-67059	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
189		HVZ2-DMP-0213	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67059	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
190		HVZ2-VC-0003	Backdraft	Parallel Blade	ISOLATION	MH-67060	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
191		HVZ2-VC-0006	Backdraft	Parallel Blade	ISOLATION	MH-67060	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
192		HVZ2-VC-0011	Backdraft	Parallel Blade	ISOLATION	MH-67060	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
193		HVZ2-DMP-0340	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67060	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
194		HVZ2-DMP-0341	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67060	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
195		HVZ2-DMP-0342	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67060	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)

	Status	Damper No	Damper Type	Blade Type	Service	P&ID No	Design Flow Rate (ACFM)[1,8]	Leakage Type[2]	Duct Shape[3]	Material Type	Fail Pos[3]	Safety Class[4]	Seismic Class[5]	ML[6]	Lim. Switch / Pos. Trans.[6]	Actuator Type[7]	Actuator Orientation[8]
196		HVZ2-VC-0007	Backdraft	Parallel Blade	ISOLATION	MH-67061	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
197		HVZ2-VC-0009	Backdraft	Parallel Blade	ISOLATION	MH-67061	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
198		HVZ2-VC-0012	Backdraft	Parallel Blade	ISOLATION	MH-67061	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
199		HVZ2-DMP-0343	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67061	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
200		HVZ2-DMP-0344	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67061	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
201		HVZ2-DMP-0345	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67061	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
202		HVZ2-VC-0004	Backdraft	Parallel Blade	ISOLATION	MH-67062	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
203		HVZ2-VC-0005	Backdraft	Parallel Blade	ISOLATION	MH-67062	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
204		HVZ2-VC-0008	Backdraft	Parallel Blade	ISOLATION	MH-67062	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
205		HVZ2-VC-0010	Backdraft	Parallel Blade	ISOLATION	MH-67062	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
206		HVZ2-DMP-0330	Manu. Iso.	Parallel Blade	ISOLATION	MH-67062	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
207		HVZ2-DMP-0331	Manu. Iso.	Parallel Blade	ISOLATION	MH-67062	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
208		HVZ2-DMP-0346	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67062	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
209		HVZ2-DMP-0347	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67062	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
210		HVZ2-DMP-0348	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67062	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
211		HVZ2-DMP-0349	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67062	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
212		HVZ2-VC-0014	Backdraft	Parallel Blade	ISOLATION	MH-67063	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
213		HVZ2-VC-0015	Backdraft	Parallel Blade	ISOLATION	MH-67063	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
214		HVZ2-DMP-0350	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67063	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
215		HVZ2-DMP-0351	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67063	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
216		HVZ2-VC-0016	Backdraft	Parallel Blade	ISOLATION	MH-67064	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
217		HVZ2-VC-0017	Backdraft	Parallel Blade	ISOLATION	MH-67064	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
218		HVZ2-DMP-0205	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67064	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
219		HVZ2-DMP-0291	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67064	(LATER)	C/II	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
220		HVZ2-VC-0400	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
221		HVZ2-VC-0401	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
222		HVZ2-VC-0402	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
223		HVZ2-VC-0403	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
224		HVZ2-VC-0404	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
225		HVZ2-VC-0405	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
226		HVZ2-VC-0406	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
227		HVZ2-VC-0407	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
228		HVZ2-VC-0408	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
229		HVZ2-VC-0409	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
230		HVZ2-VC-0410	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
231		HVZ2-VC-0411	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
232		HVZ2-VC-0414	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
233		HVZ2-VC-0415	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
234		HVZ2-VC-0416	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
235		HVZ2-VC-0417	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
236		HVZ2-VC-0418	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
237		HVZ2-VC-0420	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
238		HVZ2-VC-0421	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
239		HVZ2-VC-0422	Backdraft	Parallel Blade	ISOLATION	MH-67300	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
240		HVZ3-DMP-0029AA	Manu. Iso.	Parallel Blade	ISOLATION	MH-67400	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
241		HVZ3-DMP-0029AB	Manu. Iso.	Parallel Blade	ISOLATION	MH-67400	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
242		HVZ3-DMP-0029AC	Manu. Iso.	Parallel Blade	ISOLATION	MH-67400	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
243		HVZ3-DMP-0029BA	Manu. Iso.	Parallel Blade	ISOLATION	MH-67403	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
244		HVZ3-DMP-0029BB	Manu. Iso.	Parallel Blade	ISOLATION	MH-67403	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
245		HVZ3-DMP-0029BC	Manu. Iso.	Parallel Blade	ISOLATION	MH-67403	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
246		HVZ3-VC-0028	Backdraft	Parallel Blade	ISOLATION	MH-67407	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
247		HVZ3-VC-0029	Backdraft	Parallel Blade	ISOLATION	MH-67407	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
248		HVZ3-VC-0074	Backdraft	Parallel Blade	ISOLATION	MH-67410	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
249		HVZ3-VC-0075	Backdraft	Parallel Blade	ISOLATION	MH-67410	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
250		HVZ3-VC-0030	Backdraft	Parallel Blade	ISOLATION	MH-67411	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
251		HVZ3-VC-0037	Backdraft	Parallel Blade	ISOLATION	MH-67411	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
252		HVZ3-VC-0004	Backdraft	Parallel Blade	ISOLATION	MH-67412	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
253		HVZ3-VC-0006	Backdraft	Parallel Blade	ISOLATION	MH-67412	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
254		HVZ3-VC-0007	Backdraft	Parallel Blade	ISOLATION	MH-67412	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
255		HVZ3-VC-0021	Backdraft	Parallel Blade	ISOLATION	MH-67412	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
256		HVZ3-VC-0022	Backdraft	Parallel Blade	ISOLATION	MH-67414	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
257		HVZ3-VC-0038	Backdraft	Parallel Blade	ISOLATION	MH-67414	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
258		HVZ3-VC-0039	Backdraft	Parallel Blade	ISOLATION	MH-67414	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
259		HVZ3-DMP-0012A	Manu. Iso.	Parallel Blade	ISOLATION	MH-67420	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
260		HVZ3-DMP-0012B	Manu. Iso.	Parallel Blade	ISOLATION	MH-67420	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-

	Status	Damper No	Damper Type	Blade Type	Service	P&ID No	Design Flow Rate (ACFM)[1,8]	Leakage Type[2]	Duct Shape[3]	Material Type	Fail Pos[5]	Safety Class[4]	Seismic Class[8]	ML[9]	Lim. Switch / Pos. Trans.[6]	Actuator Type[7]	Actuator Orientation[6]
261		HVZ3-DMP-0012C	Manu. Iso.	Parallel Blade	ISOLATION	MH-67420	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
262		HVZ3-DMP-0030A	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67420	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
263		HVZ3-DMP-0030B	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67420	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
264		HVZ3-DMP-0030C	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67420	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
265		HVZ3-DMP-0031	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67420	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
266		HVZ3-DMP-0090A	Manu. Iso.	Parallel Blade	ISOLATION	MH-67421	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
267		HVZ3-DMP-0091A	Manu. Iso.	Parallel Blade	ISOLATION	MH-67421	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
268		HVZ3-DMP-0032A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67421	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
269		HVZ3-DMP-0090B	Manu. Iso.	Parallel Blade	ISOLATION	MH-67422	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
270		HVZ3-DMP-0091B	Manu. Iso.	Parallel Blade	ISOLATION	MH-67422	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
271		HVZ3-DMP-0032B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67422	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
272		HVZ3-DMP-0090C	Manu. Iso.	Parallel Blade	ISOLATION	MH-67423	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
273		HVZ3-DMP-0091C	Manu. Iso.	Parallel Blade	ISOLATION	MH-67423	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
274		HVZ3-DMP-0032C	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67423	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
275		HVZ3-DMP-0090D	Manu. Iso.	Parallel Blade	ISOLATION	MH-67424	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
276		HVZ3-DMP-0091D	Manu. Iso.	Parallel Blade	ISOLATION	MH-67424	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
277		HVZ3-DMP-0032D	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67424	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
278		HVZ3-DMP-0003AA	Manu. Iso.	Parallel Blade	ISOLATION	MH-67600	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
279		HVZ3-DMP-0003AB	Manu. Iso.	Parallel Blade	ISOLATION	MH-67600	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
280		HVZ3-DMP-0003BA	Manu. Iso.	Parallel Blade	ISOLATION	MH-67603	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
281		HVZ3-DMP-0003BB	Manu. Iso.	Parallel Blade	ISOLATION	MH-67603	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
282		HVZ3-DMP-0003CA	Manu. Iso.	Parallel Blade	ISOLATION	MH-67606	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
283		HVZ3-DMP-0003CB	Manu. Iso.	Parallel Blade	ISOLATION	MH-67606	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
284		HVZ3-VC-0008	Backdraft	Parallel Blade	ISOLATION	MH-67612	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
285		HVZ3-VC-0009	Backdraft	Parallel Blade	ISOLATION	MH-67612	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
286		HVZ3-VC-0052	Backdraft	Parallel Blade	ISOLATION	MH-67612	(LATER)	B/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
287		HVZ3-VC-0053	Backdraft	Parallel Blade	ISOLATION	MH-67612	(LATER)	B/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
288		HVZ3-VC-0010	Backdraft	Parallel Blade	ISOLATION	MH-67614	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
289		HVZ3-VC-0011	Backdraft	Parallel Blade	ISOLATION	MH-67614	(LATER)	B/I	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
290		HVZ3-VC-0012	Backdraft	Parallel Blade	ISOLATION	MH-67615	(LATER)	C/II	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
291		HVZ3-VC-0013	Backdraft	Parallel Blade	ISOLATION	MH-67615	(LATER)	C/II	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
292		HVZ3-VC-0046	Backdraft	Parallel Blade	ISOLATION	MH-67615	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
293		HVZ3-VC-0047	Backdraft	Parallel Blade	ISOLATION	MH-67615	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
294		HVZ3-VC-0048	Backdraft	Parallel Blade	ISOLATION	MH-67615	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
295		HVZ3-VC-0040	Backdraft	Parallel Blade	ISOLATION	MH-67616	(LATER)	C/II	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
296		HVZ3-VC-0041	Backdraft	Parallel Blade	ISOLATION	MH-67616	(LATER)	C/II	(LATER)	GALV.	-	SS	PC2	ML2	-	Counterbalance	(LATER)
297		HVZ3-VC-0042	Backdraft	Parallel Blade	ISOLATION	MH-67619	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
298		HVZ3-VC-0043	Backdraft	Parallel Blade	ISOLATION	MH-67619	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
299		HVZ3-VC-0044	Backdraft	Parallel Blade	ISOLATION	MH-67619	(LATER)	C/II	(LATER)	STAINLESS	-	SS	PC3	ML2	-	Counterbalance	(LATER)
300		HVZ3-DMP-0081A	Manu. Iso.	Parallel Blade	ISOLATION	MH-67627	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
301		HVZ3-DMP-0081B	Manu. Iso.	Parallel Blade	ISOLATION	MH-67627	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
302		HVZ3-DMP-0081C	Manu. Iso.	Parallel Blade	ISOLATION	MH-67627	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
303		HVZ3-DMP-0034A	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67627	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
304		HVZ3-DMP-0034B	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67627	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
305		HVZ3-DMP-0034C	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67627	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
306		HVZ3-DMP-0082	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67627	(LATER)	B/I	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
307		HVZ3-DMP-0036	Manu. Iso.	Parallel Blade	ISOLATION	MH-67628	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
308		HVZ3-DMP-0037	Manu. Iso.	Parallel Blade	ISOLATION	MH-67628	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
309		HVZ3-DMP-0035A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67628	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
310		HVZ3-DMP-0038	Manu. Iso.	Parallel Blade	ISOLATION	MH-67629	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
311		HVZ3-DMP-0039	Manu. Iso.	Parallel Blade	ISOLATION	MH-67629	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
312		HVZ3-DMP-0035B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67629	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
313		HVZ3-DMP-0040	Manu. Iso.	Parallel Blade	ISOLATION	MH-67630	(LATER)	C/II	(LATER)	GALV.	-	SS	PC2	ML2	-	-	-
314		HVZ3-DMP-0041	Manu. Iso.	Parallel Blade	ISOLATION	MH-67630	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
315		HVZ3-DMP-0035C	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67630	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
316		HVZ3-DMP-0025A	Manu. Iso.	Parallel Blade	ISOLATION	MH-67900	(LATER)	B/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
317		HVZ3-DMP-0025B	Manu. Iso.	Parallel Blade	ISOLATION	MH-67900	(LATER)	B/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
318		HVZ3-DMP-0010A	Manu. Iso.	Parallel Blade	ISOLATION	MH-67904	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
319		HVZ3-DMP-0010B	Manu. Iso.	Parallel Blade	ISOLATION	MH-67904	(LATER)	A/I	(LATER)	STAINLESS	-	SS	PC3	ML2	-	-	-
320		HVZ3-DMP-0014A	Manu. Iso.	Parallel Blade	ISOLATION	MH-67904	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
321		HVZ3-DMP-0014B	Manu. Iso.	Parallel Blade	ISOLATION	MH-67904	(LATER)	B/I	(LATER)	GALV.	-	SS	PC3	ML2	-	-	-
322		HVZ3-DMP-0096A	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67904	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
323		HVZ3-DMP-0096B	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-67904	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
324		HVZ3-DMP-0095	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67904	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
325		HVZ3-DMP-5002A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67905	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)

	Status	Damper No	Damper Type	Blade Type	Service	P&ID No	Design Flow Rate (ACFM)[1, 8]	Leakage Type[2]	Duct Shape[8]	Material Type	Fail Pos[3]	Safety Class[4]	Seismic Class[5]	ML[9]	Lim. Switch / Pos. Trans.[6]	Actuator Type[7]	Actuator Orientation[8]
326		HVZ3-DMP-5002B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-67900	(LATER)	A/I	(LATER)	STAINLESS	FO	SS	PC3	ML2	POS	Electric	(LATER)
327		HVAF-VC-0002A	Backdraft	Parallel Blade	ISOLATION	MH-68600	(LATER)	C/II	(LATER)	GALV.	-	SC	PC3	ML1	-	Counterbalance	(LATER)
328		HVAF-VC-0003A	Backdraft	Parallel Blade	ISOLATION	MH-68600	(LATER)	C/II	(LATER)	GALV.	-	SC	PC3	ML1	-	Counterbalance	(LATER)
329		HVAF-VC-0004A	Backdraft	Parallel Blade	ISOLATION	MH-68600	(LATER)	C/II	(LATER)	GALV.	-	SC	PC3	ML1	-	Counterbalance	(LATER)
330		HVAF-VC-0002B	Backdraft	Parallel Blade	ISOLATION	MH-68601	(LATER)	C/II	(LATER)	GALV.	-	SC	PC3	ML1	-	Counterbalance	(LATER)
331		HVAF-VC-0003B	Backdraft	Parallel Blade	ISOLATION	MH-68601	(LATER)	C/II	(LATER)	GALV.	-	SC	PC3	ML1	-	Counterbalance	(LATER)
332		HVAF-VC-0004B	Backdraft	Parallel Blade	ISOLATION	MH-68601	(LATER)	C/II	(LATER)	GALV.	-	SC	PC3	ML1	-	Counterbalance	(LATER)
333		HVAD-VC-0001A	Backdraft	Parallel Blade	ISOLATION	MH-69000	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
334		HVAD-VC-0002A	Backdraft	Parallel Blade	ISOLATION	MH-69000	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
335		HVAD-DMP-0201A	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-69000	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
336		HVAD-DMP-0230A	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-69000	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	LIMIT	Electric	(LATER)
337		HVAD-DMP-0202A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69000	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
338		HVAD-DMP-0203A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69000	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
339		HVAD-DMP-0231A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69000	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
340		HVAD-DMP-0250A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69000	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
341		HVAD-DMP-0251A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69000	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
342		HVAD-VC-0004A	Backdraft	Parallel Blade	ISOLATION	MH-69001	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
343		HVAD-VC-0019A	Backdraft	Parallel Blade	ISOLATION	MH-69001	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
344		HVAD-VC-0020A	Backdraft	Parallel Blade	ISOLATION	MH-69001	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
345		HVAD-DMP-0200A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69001	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
346		HVAD-DMP-0204A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69001	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
347		HVAD-DMP-0205A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69001	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
348		HVAD-DMP-0206A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69001	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
349		HVAD-DMP-0207A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69001	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
350		HVAD-DMP-0208A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69001	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
351		HVAD-DMP-0252A	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69001	(LATER)	C/II	(LATER)	GALV.	FP	SS	PC3	ML2	POS	Electric	(LATER)
352		HVAD-VC-0001B	Backdraft	Parallel Blade	ISOLATION	MH-69100	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
353		HVAD-VC-0002B	Backdraft	Parallel Blade	ISOLATION	MH-69100	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
354		HVAD-DMP-0201B	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-69100	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	LIMIT	Electric	(LATER)
355		HVAD-DMP-0230B	Motor Act. Iso.	Parallel Blade	ISOLATION	MH-69100	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	LIMIT	Electric	(LATER)
356		HVAD-DMP-0202B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69100	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
357		HVAD-DMP-0203B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69100	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
358		HVAD-DMP-0231B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69100	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
359		HVAD-DMP-0250B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69100	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
360		HVAD-DMP-0251B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69100	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
361		HVAD-VC-0004B	Backdraft	Parallel Blade	ISOLATION	MH-69101	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
362		HVAD-VC-0020B	Backdraft	Parallel Blade	ISOLATION	MH-69101	(LATER)	C/II	(LATER)	GALV.	-	SS	PC3	ML2	-	Counterbalance	(LATER)
363		HVAD-DMP-0200B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69101	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
364		HVAD-DMP-0205B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69101	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
365		HVAD-DMP-0206B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69101	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)
366		HVAD-DMP-0252B	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69101	(LATER)	C/II	(LATER)	GALV.	FP	SS	PC3	ML2	POS	Electric	(LATER)
367		HVAD-DMP-0245	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69500	(LATER)	C/II	(LATER)	GALV.	FO	SS	PC3	ML2	POS	Electric	(LATER)
368		HVAD-DMP-0246	Motor Act. Mod.	Opposed Blade	CONTROL	MH-69500	(LATER)	C/II	(LATER)	GALV.	FC	SS	PC3	ML2	POS	Electric	(LATER)

1. Airflow based on standard conditions corrected for 7500 feet elevation.
2. Leakage Type X/Y:
   'X' is the Frame Leakage Rating in accordance with ASME AG-1 Appendix DA-I (class A, B or C, A = most conservative).
   'Y' is the Seat Leakage Class in accordance with ASME AG-1 Appendix DA-I (class 0 - V, 0 = most conservative).
3. Failure Position: FO = Fails Open; FC = Fails Close; FP = Fails in Place; Dashes denote no specific fail position is required.
4. Safety Class: SS = Safety Significant; SC = Safety Class
5. Seismic Class: PC2 and PC3 requirements are explained in Specification Section 01 8115, Seismic Performance Requirements for Components and Equipment.
6. Lim. Switch / Pos. Trans.: LIMIT = Limit Switch(es) required; POS = Position Transmitter(s) required. Dashes denote Not Applicable.
7. Actuator Type: Electric, Pneumatic, or Counterbalance; Dashes denote Not Applicable.
8. Items listed as "(LATER)" will be included in Revision 0B of the specifcation.
9. Management Level (ML)

SUPPLIER / CONTRACTOR QUESTIONAIRE

Enter Dun and Bradstreet (DUNS) Number:	

1. GENERAL INFORMATION

NAME OF COMPANY (Full Legal Name)

STREET ADDRESS	CITY - STATE - ZIP CODE
MAILING ADDRESS	CITY - STATE - ZIP CODE

TELEPHONE	FACSIMILE	E-MAIL
WEBSITE	TELEX/TWX/CABLE	OTHER

A. Type of Business (check box or boxes) ☐ CORPORATION OR COMPANY ☐ SUBSIDIARY ☐ DIVISION ☐ PARTNERSHIP

Name and location of Parent Company _____ DUNS No. _____

If a Division, enter name and location of Corporate Headquarters _____ DUNS No. _____

If more than one DUNS number applies to your operation, attach additional explanatory page(s).

B. Type of Facility (check box or boxes) ☐ MANUFACTURER/ FABRICATOR ☐ DISTRIBUTOR/ SUPPLY HOUSE ☐ ASSEMBLY/ SHOP ☐ MANUFACTURERS REPRESENTATIVE ☐ CONSTRUCTION ☐ ARCHITECT/ ENGINEER ☐ TECHNICAL SERVICE ☐ GENERAL SERVICE ☐ OTHER (SPECIFY) _____

C. Enter Applicable SIC Codes:	
D. Enter Applicable NAICS Codes (North America):	

E. Date Business Founded:		Under Present Ownership Since:	
F. Number of Employees (All Facilities)	Manual:		Non-Manual:

G. Small, Disadvantaged, Women-Owned or Veteran Status

Check Applicable Boxes ☐ SMALL ☐ WOMEN-OWNED ☐ DISADVANTAGED: ☐ HUB ZONE ☐ VETERAN OWNED ☐ SERVICE DISABLED VETERAN OWNED

2. FINANCIAL INFORMATION (This section MUST BE COMPLETED for consideration. Information is kept CONFIDENTIAL.)

A. Banking Reference:			
B. Annual Sales Volume (Last 3 Years):	YR ____ $ _____	YR ____ $ _____	YR ____ $ _____
C. Present Net Worth		Bank Phone No.	

Can you furnish a Performance Bond?	☐ Yes	☐ No	

If "Yes", indicate dollar limits.	☐ To $250,000	☐ To $500,000	☐ To $1,000,000	☐ To $5,000,000	☐ To $10,000,000	☐ $25,000,000 and up

Surety _____ Agent _____ Phone No. _____

D. If required, can you furnish a Bank Guarantee or Letter of Credit? ☐ Yes ☐ No If "Yes," indicate dollar limits below:

☐ To $250,000 ☐ To $500,000 ☐ To $1,000,000 ☐ To $5,000,000 ☐ To $10,000,000 ☐ $25,000,000 and Up

Surety _____ Bank _____ Phone No. _____

E. Current Financial Ratios (Public companies only)			
Working Capital / Total Assets		Retained Earnings / Total Assets	
Earnings Before Interest and Taxes / Total Assets		Market Value of Equity / Total Liabilities	
Sales / Total Assets			
F. Current Financial Ratios (Private companies only)			
(Current Assets-Current Liabilities) / Total Assets		Retained Earnings / Total Assets	
Earnings Before Interest and Taxes / Total Assets		Book Value of Equity / Total Liabilities	
Sales / Total Assets			

3. PERSONNEL (For this location –State "Not Applicable" if the position does not exist at this location)

A. President:		D. Engineering Manager:	
B. Sales Manager:		E. QA/QC Manager:	
C. Production Manager:		F. Field Support Manager:	

4. LABOR RELATIONS – Shop Fabrication

(List all crafts with which you have contracts and/or working agreements. Check here if not applicable: ☐

	CRAFT	EXPIRATION DATE		CRAFT	EXPIRATION DATE
1.			3.		
2.			4.		

5. PLANT OPERATIONS *(For this facility only. Use a separate Page 2 for other facilities)* Check here if not applicable ☐

A. Name/Address of This Facility *(if different than for facility named at top of Page 1)*

Name _____ Address _____ Phone _____

_____ _____ Facsimile _____

B. Number of Employees at This Facility:		C. Plant in Operation Since:	

D. Do you have a Quality Assurance/ program written to comply with the following:

Nuclear related activities – 10CFR 830, Subpart A and DOE Order O 414.1C, Contractor requirements document (Attachments 2, 3 and 4) as implemented through a quality assurance program compliant with ASME NQA-1-2000.

Other: Specify_____

Non Nuclear related activities – 10 CFR 830, Subpart A and DOE Order O 414.1.C, Contractor requirements document (Attachments 2, 3 and 4) as implemented through a quality assurance program compliant with ISO 9001-2000

Other: Specify_____

Nuclear ☐ Yes ☐ No Other Certification (Please Specify) _____

ISO 9001 ☐ Yes ☐ No Other Certification (Please Specify) _____

For your Quality Assurance/Quality Control program(s), attach the Table of Contents from relevant manual(s) or, on additional pages, describe the method and level of compliance standard(s).

E. Export Capabilities PROVIDE EXPORT PACKING? ☐ YES ☐ NO FAMILIAR WITH EXPORT FORMALITIES? ☐ YES ☐ NO

F. Shipping Facilities RAIL SIDING ☐ TRUCK DOCKS ☐ WATER ACCESS ☐ WATER ACCESS DRAFT _____ meters

6. BIDDING INTEREST AND QUALIFICATIONS

A. Indicate your relebant experience and qualifications as described in the attached "Scope of Work".
(Attach additional pages if necessary)

B. Indicate appropriate Contract/Purchase Order dollar range within which you prefer, and are currently able, to bid (i.e., $250,000 to $1,500,000)

$ to $

C. Indicate Industry or Code Certifications (ASME, API, TEMA, Class of Code-Stamp, etc.)

	CERTIFICATION	EXPIRATION DATE		CERTIFICATION	EXPIRATION DATE
1.			4.		
2.			5.		
3.			6.		

D. Subcontract Services (List type of work normally subcontracted to others)

7. PROFESSIONAL LICENSES

Indicate the work category you are licensed for and the area(s) (Country/State/Province) in which you hold each. Attach additional pages, if necessary.

	TYPE OF LICENSE	LOCATION		TYPE OF LICENSE	LOCATION
1.			4.		
2.			5.		
3.			6.		

8. ENGINEERING, ARCHTECTURAL AND OTHER TECHNICAL SERVICES CONTRACTORS / SPECIFIC DATA LISTINGS

A. In addition to circling applicable work categories in Appendix A (Goods and Services Codes), also indicate fields of specialization by your firm (i.e., chemical engineering, hydrology, geology, ecological surveying, etc.) on the bottom of the appendix.

B. List Personnel by Discipline (Number on Staff)

_____	Administrative	_____	Electrical Engineers	_____	Oceanographers
_____	Architects	_____	Estimators	_____	Planners (Urban/Regional)
_____	Chemical Engineers	_____	Geologists	_____	Sanitary Engineers
_____	Construction Inspectors	_____	Interior Designers	_____	Specification Writers
_____	Draftsman	_____	Landscape Architects	_____	Structural Engineers
_____	Ecologists	_____	Mechanical Engineers	_____	Surveyors
_____	Economists	_____	Mining Engineers	_____	Transportation Engineers

9. WORK HISTORY *(Complete the attached Work History form per Appendix "C" and attach to this Questionnaire)*

Also attach a list of permanent offices and any brochures that further describe your company's activities and capabilities. Please do not include product catalogs, inventory or price lists.

10. SAFETY & HEALTH EXPERIENCE *(Complete the attached S&H form per Appendix "D" and attach to this Questionnaire)*

11. SOCIAL AND ENVIRONMENT SUSTAINABILITY INITIATIVES *(Check all that are employed through company initiatives)*

☐ Written environmental policy	☐ Products that have achieved "Cradle-to-Cradle" certification
☐ Environmental performance integrated into corporate mission	☐ Policies and practices to minimize fuel usage or use of alternative energy
☐ Social performance integrated into corporate mission	☐ Initiatives to mitigate environmental impacts of finished

	products
☐ Annual report detailing its mission-related performance (e.g. corporate social and environmental targets)	☐ Code of conduct holding subsuppliers accountable for social and environmental performance
12. COMPLETED BY:	
SIGNATURE	TITLE
NAME	DATE

APPENDICES:

APPENDIX "A" – GLOSSARY FOR SMALL, DISADVANTAGED, WOMEN-OWNED AND VETERAN ENTERPRISES

APPENDIX "C" – CONTRACTOR/SUPPLIER WORK HISTORY

APPENDIX "D" – CONTRACTOR SAFETY & HEALTH QUALIFICATION DATA

APPENDIX A

GLOSSARY FOR SMALL, DISADVANTAGED, WOMEN-OWNED, AND VETERAN ENTERPRISES

Following are definitions of small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUB Zone small business concerns, minority business enterprises, small disadvantaged business concerns, women-owned small business concerns and labor surplus area business concerns (all called "Enterprises") as defined by the U.S. Federal Acquisition Regulations:

Small-Business Concern	Firms, including affiliates, that are independently owned and operated, not dominant in the field of operation in which they are bidding on Government contracts, and that qualify under the criteria and size standards for small businesses in 13 CFR Part 121 as determined by the SBA.
HUB Zone	A historically underutilized business zone which is located within one or more qualified census tracts, qualified metropolitan counties, or lands within the external boundaries of an Indian reservation. HUBZone's appear on the List of Qualified HUBZone Small Business Concerns maintained by the SBA.
Veteran-owned Small Business Concern	A small business concern – (1) not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and (2) the management and daily business operations of which are controlled by one or more veterans.
Service-disabled Veteran-owned small Business Concern	(1) A small business concern – (i) not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and (ii) The management and daily business operations of which are controlled by one or more service-disabled or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran. (2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).
Small Disadvantaged Business Concern (Minority)	An offeror that represents, as part of its offer, that it is a small business under the size standard applicable to the acquisition; and either – It self certifies as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B; and (i) No material change in disadvantaged ownership and control has occurred since its certification; (ii) Where the concern is owned by one or more disadvantaged individuals upon whom the certification is based does not exceed $750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and (iii) It is identified, on the date of its representation, as a self certified small disadvantaged business concern in the database maintained by the SBA (Central Contractor Registration (CCR)).
Women-Owned Small Business Concern	A small business concern – 1) which is at least 51 percent owned by one or more women: or in the case of any publicly owned business, at least 51 percent of the stock which is owned by one or more women; and 2) whose management and daily operations are controlled by one or more women.

APPENDIX C

CONTRACTOR/SUPPLIER WORK HISTORY

The Contractor submits the following statement as to its experience qualifications:

1. If stated in the cover letter, provide only experience in work similar in type and magnitude to the identified Work Scope.
2. All awarded contracts have been satisfactorily completed, except as follows (Name any and all exceptions and reasons therefore, attaching additional pages if necessary):

_____

_____

_____

3. The following contracts are currently in progress or have been satisfactorily completed within the last three years or the period specified in the cover letter.
4. If you have not worked in the country specified in the cover letter within the period outlined in 3 above, add a separate page listing any work ever performed in that country. **[Item 4 does not apply to U.S. work.]**
5. Column Completion Notes:
   a. Name and Address. For past Bechtel work, include Bechtel Job No. and also asterisk any work requiring nuclear quality assurance.
   b. Work Description. Describe work scope and then indicate if prime or subcontract.
   c. Start/Stop. Provide starting date and actual/forecast completion by mo/yr, e.g., Jan 93/Sep94.
   d. Schedule and Budget. State either "over", "on", or "under" the contract schedule and budget.

Contractor/SUPPLIER WORK HISTORY							
	Customer Name, address, representative and phone no.	**Work Description**	**Location**	**Value**	**Start/Stop**	**Schedule**	**Budget**

List any awarded Contracts/Purchase Orders that were not satisfactorily completed: (List any and all exceptions and reasons therefore, attaching additional pages if necessary):

APPENDIX D

CONTRACTOR SAFETY AND HEALTH QUALIFICATION DATA

NAME OF COMPANY: _____

The above named Company submits the following Safety & Health qualification data:

1. SAFETY PERFORMANCE

1.1.a Provide a brief description of each fatality your firm has incurred in the three most recent years (add pages if required):

Year 20[ ]	Year 20[ ]	Year 20[ ]

1.1.b Provide a brief description of each fatality by any sub-tier subcontractor working under your direction has incurred in the three most recent years (add pages if required):

Year 20[ ]	Year 20[ ]	Year 20[ ]

1.2.a Provide the following information on your firm for the three most recent years:

	20[ ]	20[ ]	20[ ]
a. Number of lost workday cases.			
b. Number of restricted workday cases.			
c. Number of cases with medical attention only.			
d. Number of fatalities.			
e. Number of hours worked.			

1.2.b Provide the following information on any sub-tier subcontractor working under your direction for the three most recent years:

	20[ ]	20[ ]	20[ ]
a. Number of lost workday cases.			
b. Number of restricted workday cases.			
c. Number of cases with medical attention only.			
d. Number of fatalities.			
e. Number of hours worked.			

Attachment

2. Are accident reports and report summaries sent to the following and how often?

	No	Yes	Monthly	Quarterly	Annually
a. Project Superintendent/Site Manager.	☐	☐	☐	☐	☐
b. Vice President/Manager of Construction	☐	☐	☐	☐	☐
c. Safety Director	☐	☐	☐	☐	☐
d. President of Firm	☐	☐	☐	☐	☐

3. Do you hold site safety meetings for field employees both Manual and Non-Manual?

Yes ☐ No ☐

How Often?

Weekly ☐ Bi-Weekly ☐ Monthly ☐ Less Often, As needed ☐

4. Do you conduct project safety inspections?

Yes ☐ No ☐

If yes, who conducts this inspection?

TITLE	HOW OFTEN?

5. How are accident records and accident summaries kept? How often are they reported?

	No	Yes	Monthly	Annually
a. Accidents totaled for the entire company	☐	☐	☐	☐
b. Accidents totaled by project	☐	☐	☐	☐
(1) Subtotaled by superintendent	☐	☐	☐	☐
(2) Subtotaled by foreman	☐	☐	☐	☐

6. How are costs of individual accidents kept? How often are they reported?

	No	Yes	Monthly	Annually
a. Costs totaled for the entire company	☐	☐	☐	☐
b. Costs totaled by project	☐	☐	☐	☐
(1) Subtotaled by superintendent	☐	☐	☐	☐
(2) Subtotaled by foreman	☐	☐	☐	☐

7. List key Safety and Health personnel planned for this project. Please list name and expected position. When a project has not been specified, list key company personnel.

NAME	POSITION	PROPOSED / CURRENT PROJECT

Attachment

8. Do you have a written safety & health program?

Yes ☐ No ☐

If yes, submit a copy for evaluation.

9. Do you have an orientation program for new hires?

Yes ☐ No ☐

If yes, submit a copy for evaluation. Does it include instruction on the following?

	Yes	No		Yes	No
a. Head protection	☐	☐	i. Fire protection	☐	☐
b. Eye protection	☐	☐	j. First aid facilities	☐	☐
c. Hearing protection	☐	☐	k. Emergency procedures	☐	☐
d. Respiratory protection	☐	☐	l. Toxic substances	☐	☐
e. Safety belts and lifeline	☐	☐	m. Trenching and excavation	☐	☐
f. Scaffolding	☐	☐	n. Signs, barricades, flagging	☐	☐
g. Perimeter guarding	☐	☐	o. Electrical safety	☐	☐
h. Housekeeping	☐	☐	p. Rigging and crane safety	☐	☐
	☐	☐	q. Road Safety (Driving)	☐	☐

10. Do you have a program for newly hired or promoted foremen?

Yes ☐ No ☐

If yes, submit a copy for evaluation. Does it include the following?

	Yes	No		Yes	No
a. Safe work practices	☐	☐	e. First aid procedures	☐	☐
b. Safety supervision	☐	☐	f. Accident investigation	☐	☐
c. Toolbox meetings	☐	☐	g. Fire protection and prevention	☐	☐
d. Emergency procedures	☐	☐	h. New worker orientation	☐	☐

11. Do you hold craft "toolbox" safety meetings?

Yes ☐ No ☐

How Often?

Weekly ☐ Bi-Weekly ☐ Monthly ☐ Less Often, As needed ☐

12. Do you have a written Hazard Communication program?

Yes ☐ No ☐

If yes, how is it implemented on each project?

Attachment

13. Do you have/require Material Safety Data Sheets (M.S.D.S.) for material/chemicals/equipment?

Yes ☐ No ☐

If yes, explain field procedure for informing craft workers about potential hazards:

14. List three (3) client references that could verify the quality and management commitment of your safety program.

	Name	Address	Phone No.
a.			
b.			
c.			

Attachment

Supplier Quality Assurance Questionnaire

	SUPPLIER QUALITY ASSURANCE QUESTIONNAIRE	

Supplier or Sub-Tier Name:

Location/Address of Supplier facility (ies):

Product Description:

Does the manufacturer (distributors should obtain the assistance of the manufacturer to complete this) or contractor have a written Quality Assurance Program (QAP) Management System that is developed, implemented and maintained?

Yes ☐ No ☐ [Hint: Double-click on a box to default to checked, then cut and paste box for the rest of the answers.]

QA/QC MANUAL TITLE _____

REVISION AND ISSUE DATE _____

ATTACH A TABLE OF CONTENTS OR LISTING AND OTHER SUPPORTING INFORMATION TO THE QUESTIONNAIRE

QA/QC program table of contents and other supporting information attached? Yes ☐ No ☐

IDENTIFY CODES AND/OR STANDARDS WITH WHICH YOUR QA/QC PROGRAM COMPLIES

Codes/Standards/Supplements	Yes	No	Comments/Equivalent
1. DOE Order 414.1__ (identify version), Attachment 2	☐	☐	
2. ASME NQA-1 _____ (identify year)	☐	☐	
3. ASME Section _____ (Certificate No._____)	☐	☐	
4. ISO _____ (Certificate No. _____)	☐	☐	

5. What industry standards do you currently use to develop software/firmware? _____

6. Other Codes and Standards: _____

ASME NQA-1-2008/ASME NQA-1a-2009

Indicate whether your QA/QC Manual and/or implementing procedures address the following:

ASME NQA-1 Program Elements	Yes	No	Procedure/Manual
ASME NQA-1, Requirement 1, Organization	☐	☐	
ASME NQA-1, Requirement 2, Quality Assurance Program	☐	☐	
ASME NQA-1, Requirement 2, Auditor/Lead Auditor Qualifications	☐	☐	
ASME NQA-1, Requirement 2, Qualification of Inspection and Test Personnel	☐	☐	
ASME NQA-1, Requirement 2, Qualification of Nondestructive Testing Personnel	☐	☐	
ASME NQA-1, Requirement 3, Design Control	☐	☐	
Do you develop software in accordance with NQA-1 software engineering requirements?	☐	☐	
ASME NQA-1, Requirement 4, Procurement Document Control	☐	☐	
ASME NQA-1, Requirement 5, Instructions, Procedures, and Drawings	☐	☐	

Indicate whether your QA/QC Manual and/or implementing procedures address the following:			
ASME NQA-1 Program Elements	**Yes**	**No**	**Procedure/Manual**
ASME NQA-1, Requirement 6, Document Control	☐	☐	
ASME NQA-1, Requirement 7, Control of Purchased Items and Services	☐	☐	
Do you dedicate commercial off-the-shelf software for use as a Commercial Grade Item in accordance with NQA-1 requirements?	☐	☐	
ASME NQA-1, Requirement 8, Identification and Control of Items	☐	☐	
ASME NQA-1, Requirement 9, Control of Special Processes Identify the welding codes_____	☐	☐	
ASME NQA-1, Requirement 10, Inspection	☐	☐	
ASME NQA-1, Requirement 11, Test Control	☐	☐	
ASME NQA-1, Requirement 12, Control of Measuring and Test Equipment	☐	☐	
Do your reference standards have a minimum accuracy four times greater than that of the measuring and test equipment being calibrated?	☐	☐	
ASME NQA-1, Requirement 13, Handling, Storage, and Shipping	☐	☐	
ASME NQA-1, Requirement 14, Inspection, Test, and Operating Status	☐	☐	
ASME NQA-1, Requirement 15, Control of Nonconforming Items	☐	☐	
ASME NQA-1, Requirement 16, Corrective Action	☐	☐	
ASME NQA-1, Requirement 17, Quality Assurance Records	☐	☐	
ASME NQA-1, Requirement 18, Audits	☐	☐	
ASME NQA-1, Subpart 2.2, Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants	☐	☐	
ASME NQA-1, Subpart 2.7, Quality Assurance Requirements for Computer Software for Nuclear Facility Applications	☐	☐	
ASME NQA-1, Subpart 2.14, Quality Assurance Requirements for Commercial Grade Items and Services	☐	☐	
Identify other ASME NQA-1 Part II, Subparts applicable to the quality assurance/quality control program_____			

DOE ORDER 414.1

Indicate whether your QA/QC Manual and/or implementing procedures address the following:			
DOE ORDER 414.1 Requirement	**Yes**	**No**	**Procedure/Manual**
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (1) - Program Establish an organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing, and assessing work. Establish management processes, including planning, scheduling, and providing resources for work. (An NQA-QA program will need to describe the management process for providing resources.)	☐	☐	
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (2) - Personnel Training and Qualification Establish an organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing, and assessing work. Establish management processes, including planning, scheduling, and providing resources for work.	☐	☐	

Indicate whether your QA/QC Manual and/or implementing procedures address the following:			
DOE ORDER 414.1 Requirement	**Yes**	**No**	**Procedure/Manual**
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (3) - Quality Improvement Establish and implement processes to detect and prevent quality problems. Identify, control, and correct items, services, and processes that do not meet established requirements. Identify the causes of problems and work to prevent them. Review item characteristics, process implementation, and other quality-related information to identify items, services, and processes needing improvement. (The DOE Order extends the requirements of NQA-1 to all problems including all conditions [not limited to significant] adverse to quality and to all nonconforming items [not limited to generic]).	☐	☐	
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (4) - Documents and Records Prepare, review, approve, issue, use, and revise documents to prescribe processes, specify requirements, or establish design. Specify, prepare, review, approve, and maintain records.	☐	☐	
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (5) - Work Processes Perform work consistent with technical standards, administrative controls, and hazard controls adopted to meet regulatory or contract requirements using approved instructions, procedures, etc. Identify and control items to ensure their proper use. Maintain items to prevent their damage, loss, or deterioration. Calibrate and maintain equipment used for process monitoring or data collection.	☐	☐	
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (6) - Design Design items and processes using sound engineering/scientific principles and appropriate standards. Incorporate applicable requirements and design bases in design work and design changes. Identify and control design interfaces. Verify/validate the adequacy of design products using individuals or groups other than those who performed the work. Verify/validate work before approval and implementation of the design.	☐	☐	
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (7) - Procurement Procure items and services that meet established requirements and perform as specified. Evaluate and select prospective suppliers on the basis of specified criteria. Establish and implement processes to ensure that approved suppliers continue to provide acceptable items and services.	☐	☐	
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (8) - Inspection and Acceptance Testing Inspect and test specified items, services, and processes using established acceptance and performance criteria. Calibrate and maintain equipment used for inspections and tests.	☐	☐	
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (9) - Management Assessment Ensure that managers assess their management processes and identify and correct problems that hinder the organization from achieving its objectives.	☐	☐	
DOE Order 414.1, Attachment 2, Quality Assurance Criterion (10) - Independent Assessment Plan and conduct independent assessments to measure item and service quality and the adequacy of work performance and to promote improvement. Establish sufficient authority and freedom from line management for independent assessment teams. Ensure that persons conducting independent assessments are technically qualified and knowledgeable in the areas to be assessed.	☐	☐	

Indicate whether your QA/QC Manual and/or implementing procedures address the following:			
DOE ORDER 414.1 Requirement	**Yes**	**No**	**Procedure/Manual**
DOE Order 414.1, Attachment 2, Suspect/Counterfeit Items Preventing the introduction and use of S/CIs through engineering involvement, design, procurement, testing, inspection, maintenance, evaluation, disposition, reporting, trend analysis, and lessons learned work process controls. Training and informing managers, supervisors, and workers on S/CI processes and controls (including prevention, detection, and disposition of S/CIs). Identifying and disposing of S/CIs on site. Restricting S/CI use to only those items that have been found acceptable through engineering analysis and formal disposition process. Collecting, maintaining, disseminating, and using the most accurate, up-to-date information on S/CIs and associated suppliers using all available sources. (An NQA-1 QA program will need to be expanded to address Suspect/Counterfeit items.)	☐	☐	
DOE Order 414.1, Attachment 2, Safety Software Quality Requirements Is your software quality assurance program based on national or international standards? If yes, identify which ones apply below: ___ASME NQA-1, Part I, Requirement 3 ___ASME NQA-1, Part I, Requirement 11 ___ASME NQA-1, Part II, Subpart 2.7 Other_____	☐	☐	
DOE Order 414.1, Attachment 2, Safety Software Quality Requirements Is your software quality assurance program based on DOE G 414.1-4, *Safety Software Guide for use with 10 CFR 830 Subpart A, Quality Assurance Requirements, and DOE O 414.1C, Quality Assurance*?	☐	☐	
DOE Order 414.1, Attachment 2, Safety Software Quality Requirements Does your quality assurance program define a process for identifying and evaluating software failures and their effects on system performance (software hazard analysis)?	☐	☐	
DOE Order 414.1, Attachment 2, Safety Software Quality Requirements Does your software quality assurance program define a method for grading safety software and establishing controls based on the level of importance?	☐	☐	
DOE Order 414.1, Attachment 2, Safety Software Quality Requirements Does your software quality assurance program include controls for software configuration management and quality planning, software risk management, software procurement and supplier management, software requirements identification and management, software design and implementation, software verification and validation, and problem reporting and corrective action?	☐	☐	
DOE Order 414.1, Attachment 2, Safety Software Quality Requirements Do you train personnel who design, develop, or use safety software?	☐	☐	

General

Do you understand the questions above? Yes ☐ No ☐

If no, please provide your comments or suggestions. Also, provide any additional information relevant to your quality assurance program.

Preparer_____ Signature_____ Title_____
Date_____