

# Memorandum



**Date:** April 3, 2018

**To:** Gary Hartfield, Division Director  
Internal Services Department, Small Business Development

**From:** Milton L. Collins, Associate Director *MLC*  
Miami-Dade Aviation Department, Minority Affairs Division

**Subject:** Recommendation of Contract Measures Request:  
Concourse G Aircraft Precooling and 400 Hz Converter Installation  
Project No. X149A

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## **RECOMMENDATION:**

This is a request for Small Business Development (SBD) to approve the subject project in order for the Department to proceed in obtaining a Small Business Development Project Worksheet for the Concourse G Aircraft Precooling and Hz Converter Installation, Project No. X149A.

The Minority Affairs Division and the User Department staff have evaluated the subject project and recommend a 13% SBE/Construction project goal for the Electrical Trade. The suggested SBE/Construction subcontract items are listed on the attached Department Contract Measures Recommendation and Analysis form. The Community Workforce Program (CWP) breakdown is attached for the required goal.

The Total Estimated Project Cost will be \$3,827,193.00. The total suggested SBE/Construction Goal participation will be 13% or \$485,078.00 out of \$3,827,193.00. The Term of the project will be One-Hundred and Twenty (120) days.

## **DESCRIPTION OF PROJECT:**

The following recommendation is being made in order for Miami-Dade Aviation Department to proceed with the installation of point of service Preconditioned Air (PCA) systems to provide for aircraft cooling, 60/400 Hz Frequency converter ("Converter") equipment to supply aircraft power and precooling of passenger boarding bridges at the Miami International Airport Concourse "G" Gates 9, 10, 11, 12, 14 and 15.

MDAD requires that the equipment be installed and tested by the Manufacturer to assure proper operation and warranty due to the specialty and sensitive nature of the equipment. Therefore, this project is being submitted for review on a SBE/Construction goal basis only.

Upon landing, parking and engine shut down, the aircraft is disembarked, catered, cleaned, boarded and engines started again for takeoff. During this time, the aircraft will require electrical energy (115 volts at 400 Hz) for flight systems operation and interior lighting; pre-conditioned air (PCA) for cooling of the cabin; and cooling of the passenger loading bridges during embarking and disembarking of passengers.

Recommendation of Contract Measures Request:  
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Project No. X149A  
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Once the equipment is installed by the Manufacturer, a local SBE Electrical Contractor will perform the following tasks:

1. Install main power cabling from equipment to power source.
2. Install all low voltage communications and control power/data cables.
3. Install remote control boxes at each gate. One control box each shall be for the 400Hz/28 volt box Converter and the PC Air system.
4. Install smoke detectors in the passenger walkway of the PBB and interconnect with the airport fire Department and Building Management Systems.

Please advise if additional information is needed.

#### Attachments

c: L. Johnson, SBD  
E. Perez, MDAD  
C. Corrales, MDAD  
File

**Concourse G Gates 9, 10, 11, 12, 14 & 15  
Preconditioned Air (PCA) and 60/400 Hz Frequency Converter Installation**

**Department Contract Measures Recommendation and analysis**

Project Name: Concourse G Aircraft Precooling and 400 Hz Converter Installation

MDAD Project No: X149A

Estimated cost of project: \$3,827,193

Funding source: Aviation Bonds

Description of project: Installation of point of service Preconditioned Air (PCA) systems to provide for aircraft cooling, 60/400 Hz Frequency converter equipment to supply aircraft power and precooling of passenger boarding bridges at the Miami International Airport Concourse G Gates 9, 10, 11, 12, 14 and 15.

Contract Measure Recommendation: 13% Goal

Reason for Recommendation: This is a reasonable contract measure based on the scope of work and the availability of SBE firms available to perform this work.

Equipment/installation: \$3,342,115

Electrical work: \$ 485,078

Total Estimated Project Cost: \$3,827,193

PROJECT ANALYSIS FOR GOAL RECOMMENDATION  
FOR  
COMMUNITY WORKFORCE PROGRAM (CWP)

Project Name: Concourse G Aircraft Precooling and 400 Hz  
Converter Installation

MDAD Project Number: X149A

Trade/Skills Required	Estimated Workforce Required	Estimate of Total Days to complete
Electrical	8	120 calendar days

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**TOTAL COST SUMMARY**  
**Cc G (PBB) G9, G10, G11, G12, G13, G15**  
**400 HERTZ, PCA, and (PBB) PRE-COOLING**

	A	B	C	D	E	F	G	H	I	J	K	M
1	GATES		90 KVA 400 HERTZ		90 KVA 400 HERTZ		AIRCRAFT PCA		(PBB) PRE-COOLING		(STU) SERVICE TRANSPORT UNIT	TOTAL PER GATE
2												
3	G-9		\$ 77,628.27		\$ 77,628.27		\$ 248,504.60		\$ 136,434.73		\$ 97,669.75	\$ 637,865.62
4	G-10		\$ 77,628.27		\$ 77,628.27		\$ 248,504.60		\$ 136,434.73		\$ 97,669.75	\$ 637,865.62
5	G-11		\$ 77,628.27		\$ 77,628.27		\$ 248,504.60		\$ 136,434.73		\$ 97,669.75	\$ 637,865.62
6	G-12		\$ 77,628.27		\$ 77,628.27		\$ 248,504.60		\$ 136,434.73		\$ 97,669.75	\$ 637,865.62
7	G-14		\$ 77,628.27		\$ 77,628.27		\$ 248,504.60		\$ 136,434.73		\$ 97,669.75	\$ 637,865.62
8	G-15		\$ 77,628.27		\$ 77,628.27		\$ 248,504.60		\$ 136,434.73		\$ 97,669.75	\$ 637,865.62
9	TOTAL		\$ 465,769.62		\$ 465,769.62		\$ 1,491,027.60	# \$	\$ 818,608.38		\$ 586,018.50	\$ 3,827,193.72
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LABOR SUMMARY  
 Cc G (PBB) G10, G11, G12, G15, G15  
 400 HERTZ, PCA, and (PBB) PRE-COOLING

A	B	C	D	E	F	G	H	I	J	K	M
		90 KVA 400 HERTZ		90 KVA 400 HERTZ		AIRCRAFT PCA		(PBB) PRE-COOLING		(STU) SERVICE TRANSPORT UNIT	TOTAL PER GATE
1	GATES										
2											
3	G-9	\$ 15,409.20		\$ 15,409.20		\$ 24,552.00		\$ 21,858.00		\$ 3,618.00	\$ 80,846.40
4	G-10	\$ 15,409.20		\$ 15,409.20		\$ 24,552.00		\$ 21,858.00		\$ 3,618.00	\$ 80,846.40
5	G-11	\$ 15,409.20		\$ 15,409.20		\$ 24,552.00		\$ 21,858.00		\$ 3,618.00	\$ 80,846.40
6	G-12	\$ 15,409.20		\$ 15,409.20		\$ 24,552.00		\$ 21,858.00		\$ 3,618.00	\$ 80,846.40
7	G-14	\$ 15,409.20		\$ 15,409.20		\$ 24,552.00		\$ 21,858.00		\$ 3,618.00	\$ 80,846.40
8	G-15	\$ 15,409.20		\$ 15,409.20		\$ 24,552.00		\$ 21,858.00		\$ 3,618.00	\$ 80,846.40
9	TOTAL	\$ 92,455.20	#	\$ 92,455.20	#	\$ 147,312.00	#	\$ 131,148.00	##	\$ 21,708.00	\$ 485,078.40
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EQUIPMENT INSTALLATION SUMMARY  
 Cc G (PBB) G9, G10, G11, G12, G15  
 400 HERTZ, PCA, and (PBB) PRE-COOLING

A	B	C	D	E	F	G	H	I	J	K	M
		90 KVA 400 HERTZ		90 KVA 400 HERTZ		AIRCRAFT PCA		(PBB) PRE-COOLING		(STU) SERVICE TRANSPORT UNIT	TOTAL PER GATE
1	GATES										
2											
3	G-9	\$ 57,878.20		\$ 57,878.20		\$ 208,328.00		\$ 106,583.00		\$ 87,490.00	\$ 518,157.40
4	G-10	\$ 57,878.20		\$ 57,878.20		\$ 208,328.00		\$ 106,583.00		\$ 87,490.00	\$ 518,157.40
5	G-11	\$ 57,878.20		\$ 57,878.20		\$ 208,328.00		\$ 106,583.00		\$ 87,490.00	\$ 518,157.40
6	G-12	\$ 57,878.20		\$ 57,878.20		\$ 208,328.00		\$ 106,583.00		\$ 87,490.00	\$ 518,157.40
7	G-14	\$ 57,878.20		\$ 57,878.20		\$ 208,328.00		\$ 106,583.00		\$ 87,490.00	\$ 518,157.40
8	G-15	\$ 57,878.20		\$ 57,878.20		\$ 208,328.00		\$ 106,583.00		\$ 87,490.00	\$ 518,157.40
9	SUB TOTAL	\$ 347,269.20	#	\$ 347,269.20	#	\$ 1,249,968.00	#	\$ 639,498.00	##	\$ 524,940.00	\$ 3,108,944.40
10	TAX 7.5	\$ 26,045.19		\$ 26,045.19		\$ 93,747.60		\$ 47,962.35		\$ 39,370.50	\$ 233,170.83
11	TOTAL	\$ 373,314.39		\$ 373,314.39		\$ 1,343,715.60		\$ 687,460.35		\$ 564,310.50	\$ 3,342,115.23
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# ESTIMATE SHEET

## Typical Bridge

### (1) 90 Ton PCA Aircraft Cooling Unit

1	B	C	D	E	F	G	H	I	J	K	L
	MATERIAL				EXT	LABOR		EXT			
	DISCRIPTION	QT	UNIT	PRICE				UNIT			
3	sample		LF			\$ -		LF		0	
4	PCA 90 Ton	1	ea	175,800.00		\$ 175,800.00		80 hr		80	
5	4/0 cable	1600	lf	18.51		\$ 29,616.00		0.067 lf		107.2	
6	strain relief con	2	ea	\$ 40.00		\$ 80.00		1.5 ea		3	
7	control cable	150	lf	1.78		\$ 267.00		0.02 lf		3	
8	Disc Term	4	ea			\$ -		1 ea		4	
9	equip term	4	ea			\$ -		1 ea		4	
10	lifting equip	5	days	500		\$ 2,500.00		16 day		80	
11	cable cutting	1	EA	65		\$ 65.00				80	
12	testing	1	lot			\$ -		16 hr		16	
13	commissioning	1	lot			\$ -		32 hr		32	
14						\$ -				0	
15						\$ -				0	
16						\$ -				0	
17						\$ -				0	
18						\$ -				0	
19						\$ -				0	
20						\$ -				0	
21						\$ -				0	
22						\$ -				0	
23						\$ -				0	
24						\$ -				0	
25						\$ -				0	
26						\$ -				0	
27						\$ -				0	
28						\$ -				0	
29						\$ -				0	
30						\$ -				0	
31	<b>TOTAL</b>					\$ 208,328.00				409.2	
32											
33											
34			labor		60	24552					
35			material			208,328.00					
36			tax		0.075	15624.6					
37			total			248504.6					
38											



**ESTIMATE SHEET**  
**Typical Bridge**  
**(2) 90 KVA 400 Hertz point of use**  
**Converters**

	B	C	D	E	F	G	H	I	J	K	L
1				MATERIAL				LABOR			
2	DISCRIPTION		QT	UNIT	PRICE	EXT		UNIT		EXT	
3	sample			LF		\$ -			LF		0
4	90 KVA 400 HZ		2	ea	40,000.00	\$ 80,000.00			32 hr		64
5	1/0 cable		3120	lf	10.57	\$ 32,978.40			0.047 lf		146.64
6	strain relief con		4	ea	\$ 37.00	\$ 148.00			0.75 ea		3
7	control cable		0	lf		\$ -			0 lf		0
8	Disc Term		8	ea		\$ -			0.75 ea		6
9	equip term		8	ea		\$ -			0.75 ea		6
10	lifting equip		5	days	500	\$ 2,500.00			16 day		80
11	cable cut		2	ea	65	\$ 130.00					160
12	testing		1	lot		\$ -			16 hr		16
13	commissioning		1	lot		\$ -			32 hr		32
14						\$ -					0
15						\$ -					0
16						\$ -					0
17						\$ -					0
18						\$ -					0
19						\$ -					0
20						\$ -					0
21						\$ -					0
22						\$ -					0
23						\$ -					0
24						\$ -					0
25						\$ -					0
26						\$ -					0
27						\$ -					0
28						\$ -					0
29						\$ -					0
30	TOTAL					\$ 115,756.40					513.64
31											
32											
33				labor		60					30818.4
34				material							\$ 115,756.40
35				tax		0.075					8681.73
36				total							155256.53
37											

**ESTIMATE SHEET**  
**Typical Bridge**  
**(2) 5 Ton (PBB) Pre-cooling Units**

	B	C	D	E	F	G	H	I	J	K	L
1				MATERIAL				LABOR			
2	DISCRIPTION		QT	UNIT	PRICE	EXT		UNIT		EXT	
3	sample			LF		\$ -			LF	0	
4	5 Ton DX units		2	ea	46,000.00	\$ 92,000.00		24	hr	48	
5	#6 cable		1600	lf	3.7	\$ 5,920.00		0.032	lf	51.2	
6	strain relief con		5	ea	\$ 37.00	\$ 185.00		0.75	ea	3.75	
7	control cable		1600	lf	1.78	\$ 2,848.00		0.016	lf	25.6	
8	Disc Term		2	ea		\$ -		0.75	ea	1.5	
9	equip term		3	ea		\$ -		0.75	ea	2.25	
10	lifting equip		5	days	500	\$ 2,500.00		8	hr	40	
11	bracing		2	ea	\$400.00	\$ 800.00		16	hr	32	
12	duct work		2	ea	800	\$ 1,600.00		32	HR	80	
13	CONTROL WORK		2	EA	300	\$ 600.00		16	HR	32	
14	cable cut		2	EA	65	\$ 130.00					
15	Testing		2	ea	0	\$ -		16	hr	32	
16	Commissioning		1	lot	0	\$ -		16	hr	16	
17										0	
18						\$ -				0	
19						\$ -				0	
20						\$ -				0	
21						\$ -				0	
22						\$ -				0	
23						\$ -				0	
24						\$ -				0	
25						\$ -				0	
26	TOTAL					\$ 106,583.00				\$ 364.30	
27											
28											
29				labor	\$ 60.00	\$ 21,858.00					
30				material		\$ 106,583.00					
31				tax	0.075	\$ 7,993.73					
32				total		\$ 136,434.73					
33											
34											
35											
36											

# ESTIMATE SHEET

## Typical Bridge

### (1) STU Service Transport Unit Cable Management

	B	C	D	E	F	G	H	I	J	K	L
1											
2											
3											
4											
5				MATERIAL				LABOR			
6	DISCRIPTION		QT	UNIT	PRICE	EXT		UNIT	LF	EXT	
7	sample			LF		\$ -			LF		0
8	(STU) service Transport Unit		1	ea	85,000.00	\$ 85,000.00		24 hr			24
9	Supports and secure STU		1	ea	400	\$ 400.00		16 hr			16
10	#6 cable tie 2ft		30	ea	0.75	\$ 22.50		0.08 ea			2.4
11	1/0 cable		30	ea	\$ 0.75	\$ 22.50		0.1 ea			3
12	control cable		30	ea	0.75	\$ 22.50		0.08 ea			2.4
13	4/0 cable		30	ea	0.75	\$ 22.50		0.15 ea			4.5
14	lifting equipment		4	ea	500	\$ 2,000.00					
15						\$ -					0
16	Testing					\$ -		8 hr			8
17						\$ -					0
18						\$ -					0
19						\$ -					0
20						\$ -					0
21						\$ -					0
22						\$ -					0
23	TOTAL					\$ 87,490.00					60.3
24											
25											
26				labor		60		3618			
27				material				87,490.00			
28				tax		0.075		6561.75			
29				total				97669.75			
30											
31											

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