YORK®	LARGE TONNAGE CHILLER STRATEGY	
COMPETITIVE DATA	Supersedes: 160.00-CD7 (598)	Form: 160.00-CD7 (698)

COMPANY CONFIDENTIAL

Carrier's recent decision to drop out of the centrifugal chiller market over 1500 tons has changed the game for York's large tonnage chillers. It leaves the YK as the only single compressor packaged chiller above 1500 tons manufactured in the United States. And it leaves the OM Turbomaster as the only single compressor field erected chiller from 3000 to 9000 tons manufactured in the U. S. Carrier's departure will have all the U. S. manufacturers trying to redesign existing and new jobs around smaller chillers, and Trane and McQuay trying to resell the idea of their dual compressor chillers. York Sales Engineers need to be aware that our competitors will be out there talking about the evils of York proprietary specifications and single source bids. There are often good reasons and justification for large YK and OM chillers, even though there may be less competition. This brochure discusses possible sales strategies for obtaining large YK and OM specs, the pros and cons of the competitive alternatives, and ideas that will keep York in control of these large projects.

Keep in mind that the problem of proprietary specifications is primarily a domestic U. S. situation, as the overseas markets do see other large chiller competitors. At this time we do not see these overseas manufacturers selling centrifugal chillers in the United States. Be careful of using a strategy naming these overseas manufacturers as competitors, if they are not selling product in that area.

The data provided in this brochure is based on the U. S. centrifugal manufacturers: York, Trane, Carrier and McQuay. Internationally, there may be several other manufacturers bidding, which would make the York chillers non-proprietary.

- Mitsubishi - R-22 capacity through 8500 tons; R-134a through 6000 tons. The equipment is very similar to our design. They have bid recent jobs, but we won on first cost.
- Ebara (Carrier / Japan) - R-22 capacity to 9000 tons; R-134a to 6000 tons. Active in the Pacific Rim.
- Hitachi - R-22 capacity to 10,000 tons; also offers R-134a. Active in the Pacific Rim and in the gold mines in South Africa.
- Sulzer (Germany) - We have seen them up to 3000 tons. They recently formed an arrangement with McQuay, but we have no details, nor have we seen any impact on the business.

FIELD FEEDBACK

This strategy was developed based on competitive information currently available, and from interviews with individual Sales Districts active in the sale of large chillers.
The performance and physical data on the dual compressor chillers is based on minimal information published by the manufacturers and field feedback provided on those few jobs quoted. We need your feedback on individual jobs in order to confirm their actual offer and our strategy.

Please let us know your successful strategies so we can let the rest of the field know what works.

OM STRATEGY

1. Proprietary Products (primarily U. S. market)- An Owner's main concern will likely be that he will have little control over the final price if the specification is written around an OM. If an OM makes sense for a project, and there is this price concern, York needs to be willing to guarantee the price of the OM prior to the specification stage. There are several ways to approach this. If a customer has recently purchased a similar OM, consider using that price plus inflation to the time of the new purchase. You can also provide a $ / ton price that can be used as the base. Or if a life cycle cost analysis indicates an OM is justified based on a certain price, guarantee it. There is always the opportunity to sell up after you get the order. A written guarantee can be signed by an Officer of the company if that would help. Do whatever is necessary to remove this obstacle.
2. Energy Efficiency - Energy cost should be based on the actual chiller sequencing scenario. Large chilled water plants generally operate multiple chillers at higher loads and sequence chillers off, rather than operate the chillers at low load. The part load efficiency of a dual compressor chiller may not show up in the analysis. The higher pressure drop of dual compressor chillers will also add to their energy cost. OM chillers are designed for very efficient full load operation.
3. Installation Cost - A case can often be made that installing several large chillers costs less than installing a lot of smaller chillers. More chillers require longer runs of pipe, more complex piping, connections and valving arrangements, more pumps, cooling towers and more complex control scenarios. Dual compressors also require twice the power wiring and number of starters. All this takes equipment room space.
4. Chiller Plant Size - The added plant room space required for more small units and / or longer dual compressor chillers costs money. OM's will best be justified on total chiller plant size over 12,000 tons. The added construction cost must be taken into account in the projects overall cost.
5. Maintenance Cost - Maintaining a fewer number of large OM chillers, custom designed for the industrial market (40 year life), might be shown to be more economical than maintaining a larger number of packaged chillers (25-30 year life).
6. Safety Factor - In the case of a very large chiller plant, how many chillers, or compressors are too many? For instance, (6) OM 3000; (9) 2000 ton single compressor chillers, or (18) compressors for dual chillers; (12) 1500 ton chillers, etc? It is good practice to have one chiller available as a safety factor, but too many compressors can increase maintenance cost. With a dual compressor chiller the entire unit should be treated as a spare.
7. If the above items look positive for an OM, you should be able to create a desire by the owner for an OM and justify a proprietary specification.
8. Existing Chilled Water Plants - It will be easiest to justify an OM in an existing plant already having large OM's or similar size Carrier chillers. Chilled water pipes, pumps and starters of similar size and design already exist that make it easy to add another one or two chillers. It would be more difficult to fit in smaller chillers or dual compressor chillers with single pass heat exchangers.
9. In the past, we have written OM specs, with an option for YK's, that resulted in large YK orders. Without the OM spec, we would probably not have gotten the YK order. Without Carrier quoting the 17DA or 17EX we will likely see more of this, but now including dual compressor units, if for no other reason than as a price check. You need to carefully define the scope of the spec, before quoting an OM. Do not let it be too open. If the spec is open to all the cats and dogs without preference for an OM, you probably do not want to waste your time on an OM.

Note: The Trane CDHF (60 HZ) is available up to 2800 tons and CDHG (50 HZ) to 2500 tons. It is very important that York does not portray the OM chiller as being offered below 3000 tons. To do so would let Trane obtain a non-proprietary specification and the OM would lose on price.

YK STRATEGY

1. Proprietary Products (primarily U. S. market)- An Owner's main concern will likely be that he will have little control over the final price if the specification is written around a 2000 ton YK. For smaller projects up to 6000 total tons, your competitors will likely offer multiples of 1200 to 1500 ton chillers. Ideally, we would like to see Trane and McQuay quote dual compressor chillers to keep it non-proprietary. If a YK makes sense for a project, and there is a price concern, York needs to be willing to guarantee the price of the YK prior to the specification stage. There are several ways to approach this. If a customer has recently purchased a similar YK, consider using that price plus inflation to the time of the new purchase. You can also provide a $ / ton price that can be used as the base. Or if a life cycle cost analysis indicates a YK is justified based on a certain price, guaranty it. There is always the opportunity to sell up after you get the order. A written guaranty can be signed by an Officer of the company if that would help. Do whatever is necessary to remove this obstacle.
2. Energy Efficiency - Energy cost should be based on the actual chiller sequencing scenario. Large chilled water plants generally operate multiple chillers at higher loads and sequence chillers off, rather than operate the chillers at low load. The part load efficiency of a dual compressor chiller may not show up in the analysis. The higher pressure drop of dual compressor chillers will also add to their energy cost.
3. Installation Cost - A case can often be made that installing several large chillers costs less than installing a lot of smaller chillers. More chillers require longer runs of pipe, more complex piping, connections and valving arrangements, more pumps, cooling towers and more complex control scenarios. Dual compressors also require twice the power wiring and number of starters. All this takes equipment room space.
4. Chiller Plant Size - The added plant room space required for more small units and / or longer dual compressor chillers costs money. YK's will best be justified on chiller plant sizes of 8000 to 12,000 total tons. The added construction cost must be taken into account in the projects overall cost.
5. Maintenance Cost - Maintaining a fewer number of compressors on large YK chillers can be shown to be more economical than maintaining a larger number of compressors and chillers.
6. If the above items look positive for a YK, you should be able to create a desire by the owner for a YK and justify a proprietary specification.
7. Existing Chilled Water Plants - It will be easiest to justify a YK in an existing plant already having large YK's or similar size Carrier chillers. Chilled water pipes, pumps and starters of similar size and design already exist that make it easy to add another one or two chillers. It would be more difficult to fit in smaller chillers or dual compressor chiller with single pass heat exchangers.
8. Without Carrier quoting the 19EX or 17EX it will be harder to get large YK specs. We are likely to see more dual compressor chillers in these specs, if for no other reason than as a price check. There is little problem with this as long as the specification is written to provide a fair evaluation of the benefits of single compressor chillers vs dual compressors. You need to carefully define the scope of the spec. Pin the chiller down to quantity and tonnage size. Do not let it be too open.
9. You need to be particularly careful of specs that are so open as to allow any size and quantity of chillers without evaluation guidelines.
10. Do not let the capacity go much above 2000 tons where the YK will start to lose efficiency. Trane will try to get it as high as possible.

CENTRIFUGAL CHILLER TONNAGE RANGES AND PERFORMANCE

MFGR	MODEL	REF.	TON. RANGE	TONS	KW/TR	IPLV	EVAP PD	COND PD
York	YK	22	500 to 2300	2000	.604	.579	20.9	15.6
	YK	134a	350 to 2100	1500 2000	.559 .572	.521 .535	12.5 16.3	12.0 18.9
	OM *	22	3000 to 9000	3000	.534	.544	17.6	22.2
	OM *	134a	3000 to 6300	3000 4000 5000	.531 .527 .530	.543 .537 .527	17.6 23.0 21.8	23.7 26.2 27.0
Carrier	19XR	134a	200-1500	1500 @ max	.59		30.5	28.3
Trane	CVHF	123	300 to 1425	1200 1425 @ max	.557 .58			
	CDHF	123	1500 to 2800	2000 2500 2800 @ max	.51 - .52 .56 - .57 .58			
McQuay	PEH	134a	150 to 1300	1250 1300 @max	.610 .638	.569 .593	22.0 23.6	15.5 16.6
	PFH	134a	1600 to 2350	1600 2000 2350 @ max	.594 .571 .592	.510 .483 .593	22.1 33.0 44.1	17.0 25.1 33.2

Performance is at the ARI Standard Rating Point using 60 HZ power. Keep in mind large tonnage applications often utilize lower evaporator flow with higher temperature range which will lower the evaporator pressure drop.

PHYSICAL DATA

MODEL	TONS	LENGTH		WIDTH	TUBE PULL	OPER. WGT.	
		CWB	MWB			CWB	MWB
YKWHVDJ4-DFH	2000	19' 4"	19' 11"	9' 11"	16'	65,000	70,700
OM3000 *	3000	NA	24' 3"	18' 0"	16'	NA	184,000
OM4000 *	4000	NA	24' 5"	19' 11"	16'	NA	225,000
OM5000 *	5000	NA	25' 8"	21' 9"	16'	NA	281,000
19XR8787	1500	18' 5"	19' 9"	8' 11"	16'	58,802	61,187
CVHF 1280 2500 EL	1200	19' 3"	20' 3"	12'	17' 5"	66,146	
CDHF	2000-2800	NA	27'	12'	22'	NA	101,378
PEH126 E/C4216	1250	18' 4"		8' 9"	16'	53,100	
PFH126 E/C4220 PFH126 E/C4824	1600 2350	23' 27' 1"		7' 7" 8' 7"	20' 24'		

* Data is for Standard OM offer using 0.028" Turbo-BII & Turbo-CII tubes. Unit dimensions, performance and PD can be varied to suit the application.

Chiller length is for 2 pass with nozzles on one end, except CDHF / CDHG is 1 pass having nozzles on both ends.

TOTAL CHILLER PLANT SIZE

YK vs OTHER PACKAGED CHILLERS

CHILLER PLANT WIDTH WITH SIDE-BY-SIDE CHILLERS												
MODEL	**TONS PER UNIT**	**W**	**TOTAL CHILLER PLANT SIZE**									
			2,000 TR		**4,000 TR**		**6,000 TR**		**8,000 TR**		**10,000 TR**	
			Q	**TW**	**Q**	**TW**	**Q**	**TW**	**Q**	**TW**	**Q**	**TW**
YK	2000	10'	1	10'	2	23'	3	36'	4	49'	5	62'
19XR	1500	9'					4	45'				
CVHF	1200	12'					5	72'				
CDHF / G	2000	12'	1	12'	2	27'	3	42'	4	57'	5	72'
PEH	1200	9'					5	57'				
PFH	2000	9'	1	9'	2	21'	3	33'	4	45'	5	57'

W = Individual chiller width rounded to the nearest foot
Q = Quantity of chillers
TW = Total chiller plant width assuming chillers are installed side-by-side with 3 foot clearance space between units.

CHILLER PLANT SQ. FT. AREA INCLUDING TUBE PULL												
MODEL	**TONS PER UNIT**	**SQ. FT. AREA**	**TOTAL CHILLER PLANT SIZE**									
			2,000 TR		**4,000 TR**		**6,000 TR**		**8,000 TR**		**10,000 TR**	
			Q	**TSF**	**Q**	**TSF**	**Q**	**TSF**	**Q**	**TSF**	**Q**	**TSF**
YK	2000	356	1	356	2	826	3	1292	4	1759	5	2226
19XR	1500	319					4	1609				
CVHF	1200	453					5	2718				
CDHF / G	2000	588	1	588	2	1323	3	2058	4	2793	5	3528
PEH	1200	300					5	1955				
PFH	2000	440	1	440	2	1073	3	1686	4	2300	5	2913

SQ. FT. AREA = (Individual chiller length plus tube pull length) X (chiller width)
Q = Quantity of chillers
TSF = Total Square Feet = (Individual chiller length plus tube pull length) X (chiller width plus 3 foot space between units)

The above two tables show that multiple 2000 ton YK chillers will save considerable floor space compared to using smaller sized chillers. The width of dual compressor 2000 ton chillers are roughly comparable to the YK, but the dual compressor unit length plus tube pull length shows its total square feet of floor space is significantly more than the YK.

TOTAL CHILLER PLANT SIZE

OM vs SMALLER CHILLERS

CHILLER PLANT WIDTH WITH SIDE-BY-SIDE CHILLERS												
MODEL	**TONS PER UNIT**	**W**	**TOTAL CHILLER PLANT SIZE**									
			12,000 TR		**15,000 TR**		**16,000 TR**		**18,000 TR**		**20,000 TR**	
			Q	**TW**	**Q**	**TW**	**Q**	**TW**	**Q**	**TW**	**Q**	**TW**
OM	3000	18'	4	81'	5	102'			6	123'		
	4000	20'	3	66'			4	89'			5	112'
	5000	22'			3	72'					4	97'
YK	2000	10'	6	75'			8	101'	9	114'	10	127'
19XR	1500	9'	8	93'	10	117'	12	141'				
CVHF	1200	12'	10	147'								
CDHF / G	2000	12'	6	87'			8	117'	9	132'	10	147'
	2500	12'			6	87'					8	117'
PEH	1200	9'	10	117'								
PFH	2000	9'	6	69'			8	93'	9	105'	10	117'

W = Individual chiller width rounded to the nearest foot
Q = Quantity of chillers
TW = Total chiller plant width assuming chillers are installed side-by-side with 3 foot clearance space between units.

CHILLER PLANT SQ. FT. AREA INCLUDING TUBE PULL												
MODEL	**TONS PER UNIT**	**SQ. FT. AREA**	**TOTAL CHILLER PLANT SIZE**									
			12,000 TR		**15,000 TR**		**16,000 TR**		**18,000 TR**		**20,000 TR**	
			Q	**TSF**	**Q**	**TSF**	**Q**	**TSF**	**Q**	**TSF**	**Q**	**TSF**
OM	3000	725	4	3260	5	4106			6	4951		
	4000	807	3	2673			4	3605			5	4536
	5000	906			3	3000					4	4042
YK	2000	356	6	2693			8	3626	9	4093	10	4559
19XR	1500	319	8	3325	10	4183	12	5041				
CVHF	1200	453	10	5549								
CDHF / G	2000	588	6	4263			8	5733	9	6468	10	7203
	2500	588			6	4263					8	5733
PEH	1200	300	10	4017								
PFH	2000	440	6	3526			8	4752	9	5366	10	5979

SQ. FT. AREA = (Individual chiller length plus tube pull length) X (chiller width)
Q = Quantity of chillers
TSF = Total Square Feet = (Individual chiller length plus tube pull length) X (chiller width plus 3 foot space between units)

The above two tables show that OM chillers for very large plants over 12,000 total tons will take the least square feet of floor space. The larger the OM can be, the less the total plant square footage will be. Dual compressor 2000-2500 ton chillers, with their long chiller length and tube pull length take considerably more space.

DUAL COMPRESSOR CHILLERS vs SINGLE COMPRESSOR YK

TRANE CDHF 1500 - 2800 TONS 60 HZ & CDHG 1200 - 2500 TONS 50 HZ

Positive

- Two independent refrigerant circuits - claim standby capacity
- Can provide low voltage up 2800 tons
- Marine water boxes standard
- Better part load efficiency vs a single compressor chiller, but this may have little affect, as large central chilled water plants generally do not operate at low loads.

Negative

- 27' chiller length with MWB vs 19' 11" for YK
- Add 22' tube pull space above vs 16' for YK
- Single pass only for evap. and cond. Pressure drop will already be high with single pass.
- One pass requires 16" connections to both shells vs 12" for two pass YK shells
- Can not lead lag compressors - Compressor A always takes the lower tonnage swing load... more demanding duty on that compressor. It is unlikely these compressors are identical and could be switched from lead to lag.
- Having a single tube extend through two separate refrigerant circuits requires a very tight seal at the middle tube sheet. If there is a leak, it would be very difficult to find and repair. If refrigerant is removed from one circuit and the middle tube sheet seal begins to leak the refrigerant from the good circuit could be lost.
- Two power connections... higher installed cost
- Two control panels and connections... higher installed cost and more complex control logic
- Two bursting disk connections... higher installed cost
- Two purge unit connections... higher installed cost
- Two compressors and its associated piping mean twice as many sources for leaks compared to a single compressor chiller.
- Higher maintenance cost than single compressor chillers
- Operating weight 101,000# vs 71,000# for YK...higher first cost vs YK?
- 12' width vs 10' for YK - a factor in multiple chiller installations
- Can CDHF / G be factory performance tested? We had recent feedback that Trane quoted $50,000 to factory test a 2200 ton chiller. If this is correct, we should put factory performance testing of 2000 ton chillers in the specification.
- Condenser tubes without lands at tube supports
- Can not provide >6600 volt and non-electric drive options to satisfy electric deregulation
- Does the phaseout of R-123 make any sense on very large chilled water plants that will operate for long life?

The major drawbacks to the CDHF / CDHG dual compressor chillers will most likely be the following:

- The actual chiller length, plus the additional tube pull requirements may not allow the chiller to fit the equipment room space. This would be especially true for an existing installation. For a new installation, it would increase the equipment room space and cost.
- Installation cost and maintenance cost of a dual compressor chiller will cost significantly more than a comparable sized single compressor chiller.
- The evaporator and condenser pressure drop for longer length shells may be too high for existing pumps, and / or would adversely affect energy levels.
- A single pass chiller may not fit the existing water piping in an equipment room without extensive and costly renovation.

DUAL COMPRESSOR CHILLERS vs SINGLE COMPRESSOR YK

McQUAY PFH 1600-2350 TONS

Positive

- Can provide low voltage 1600-2350 tons
- 7' 7" to 8' 7" width vs 9' 11" for YK
- Better part load efficiency vs a single compressor chiller, but this may have little affect, as large central chilled water plants generally do not operate at low loads.

Negative

- Single refrigerant circuit- standby capacity can not be guaranteed
- One motor failure can contaminate entire refrigerant circuit, despite McQuay's claim that filters plug up before contaminants can spread.
- Each chiller is furnished with compressor isolation valves - manual suction shutoff valves and discharge line check valves. Check valves do not provide positive shutoff for safety and reliability.
- 23 - 27' chiller length with CWB vs 19' 4" for YK. Pressure drop will be high.
- Two power connections... higher installed cost
- Two control panels and connections... higher installed cost and more complex control logic
- Two compressors and its associated piping mean twice as many sources for leaks compared to a single compressor chiller.
- Higher maintenance cost than single compressor chillers
- McQuay can not factory performance test chillers over 1600 tons
- Compressor liquid injection adds 1-2 % kW / ton
- Control of suction superheat can add 3 % to kW / ton
- High compressor tip speed - 26-62 % higher than YK...higher sound levels?
- No proximity probe or bearing temperature safety on high speed thrust
- Tubes without lands at tube supports
- Lubrication and refrigerant circuit complexity
- Can not provide >6600 volt and non-electric drive options to satisfy electric deregulation

The major drawbacks to the PFH dual compressor chillers will most likely be the following:

- Two compressors on a single refrigerant circuit.
- The actual chiller length, plus the additional tube pull requirements may not allow the chiller to fit the equipment room space. This would be especially true for an existing installation. For a new installation, it could increase the equipment room space and cost.
- Installation cost and maintenance cost of a dual compressor chiller will be significantly more than a comparable sized single compressor chiller.
- Evaporator and condenser pressure drop for longer length shells may be too high for existing pumps, or would adversely affect energy levels.

SMALLER FACTORY PACKAGED CHILLERS
vs
LARGER FIELD ERECTED OM CHILLERS

SMALLER FACTORY PACKAGED CHILLERS

Positive

- Safety factor - less costly to design for one spare chiller
- Factory packaged and run tested
- Can be factory performance tested (not sure of test capabilities for dual compressor chillers)
- Service and maintenance requires lower level of technician skill
- Shorter production lead time
- Faster installation time
- Standard components and more readily available (maybe)

Negative

- Larger number of chillers will take more floor space
- More chillers will possibly have a higher installation cost (water piping, wiring, etc.)
- More compressors will require more maintenance, and more time to log operating conditions
- Packaged chiller vs custom design OM
- Larger number of chillers require more complex control scenarios

LARGER FIELD ERECTED OM CHILLERS

Positive

- Truly a custom industrial design...40 year equipment life
- Does CDHF with R-123 make any sense on very large chilled water plants vs an OM that will operate with R-134a for 40 years?
- Ability to tailor design to the application...shell length, tight space requirements, and special drive options to satisfy electric deregulation, e.g., steam turbines and gas turbines.
- 13,000 volt motors above 3000 Tons
- More flexible compressor for higher head applications, e.g., 2 & 3 stage for ice storage and air cooled condensing
- Larger plant capacities will take less equipment room space...space is money and always at a premium
- Fewer compressors and units are required for the largest plants. Make sure you have a safety factor.
- High full load efficiency with larger multi-stage compressors. Large chilled water plants generally operate chillers at high loads, then sequence chillers off, rather than operate them at low part loads. The part load efficiency of dual compressor chillers may not matter.
- Proof of performance...every chiller is field tested
- Possible lower maintenance cost for fewer industrial design OM's

Negative

- There will be less compressor redundancy for smaller plant capacities with only a few OM units
- Requires more field erection, fit-up and chiller assembly cost
- Requires more operator training and higher level of technician knowhow
- Longer lead time and installation time
- Overall higher installed cost for individual units? This may not be true vs many smaller chillers. Need to justify the price.

U. S. FEDERAL ACQUISITION REGULATIONS
COMPETITION REQUIREMENTS

The U. S. Government allows for the acquisition of proprietary products only under fairly rigid guidelines as detailed in the enclosed letter from Mark Stanga. These are Federal rules and do not necessarily apply to state and local governments. You need to check those regulations on an individual job basis.

Justification is easiest when there are hard facts to back them up, ones that are not subject to interpretation. Subjective rationale is hardest to back up.

Listed below are some ideas that might justify a proprietary specification for fewer large chillers vs more smaller chillers.

- Larger multiples of smaller chillers installed side-by-side will generally take more equipment room space than fewer large chillers. This includes space between chillers. There may not be room for smaller chillers, especially in existing plants.
- Chiller length could be a major deterrent for dual compressor chillers. The actual chiller length, plus the additional tube pull requirements may not allow the chiller to fit the equipment room space. Again, this would be especially true for an existing installation. For a new plant installation, it could increase the equipment room space with resulting higher construction cost.
- Evaporator and condenser pressure drop for longer length shells may be too high for existing pumps, or would adversely affect energy levels.
- If there are existing large chillers in the equipment room, would adding the same type of chiller(s) best fit from a control, piping, and wiring standpoint? What about quality of construction, features and operating life?
- A single pass chiller may not fit the existing water piping in an equipment room without extensive and costly renovation. For new plant designs single pass heat exchangers could require extensive new drawings resulting in higher engineering cost.
- Too many chillers could increase the installation cost due to the extra piping, power wiring, control wiring, need for equalization of run hours of compressors, and building automation system complexity.
- On large central chilled water plants, multiple chillers generally operate at high load and are sequenced off for energy efficiency, rather than operated at low loads. Single compressor YK and OM efficiency could be superior to dual compressor chillers at these operating conditions.

YORK® INTERNATIONAL

CORPORATION

April 30, 1998

TO: Bob Schmitt

FROM: Mark Stanga

SUBJECT: Sole Source Procurement Justifications for OM Turbomasters and Other Large Chillers

Here is a summary of how the Federal Acquisition Regulation requires sole source procurements to be justified and approved. This is based on the rules that I sent you previously. You should develop general justification guidelines for use of large chillers that conform to the requirements outlined below, which we will then customize for use in individual procurements.

The initiating office (i.e., the government customer) must prepare a written justification for other than full and open competition (a "JOFOC") stating the facts and circumstances that substantiate the unfeasibility of competition. A division director level person must sign the justification. The basis we will use (and for which we should assist the customer in developing the justification) is FAR § 6.302-1(a)(2), which allows a sole source competition when the supplies required by the agency are available from only one responsible source. Under FAR §6.302-1(b)(1), an agency may use this authority "when there is a **reasonable basis** to conclude that the **agency's minimum needs** can only be satisfied by unique supplies available from only one source, or only one supplier with unique capabilities."

FAR §6.303-2 requires a JOFOC justification to contain specific facts and rationale to justify the use of the cited authority. It specifically must include:

- Identification of the agency and the contracting activity, and specific identification of the document as a "Justification for other than full and open competition;"
- Nature and/or description of the action being approved;
- **A description of the supplies required to meet the agency's needs** (including the estimated value);
- An identification of the statutory authority permitting other than full and open competition;
- **A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited;**
- A description of efforts made to ensure that offers are solicited from as many potential sources as is practicable, including whether a CBD notice was or will be publicized as required by Subpart 5.2 and, if not, which exception under 5.202 applies;
- A determination by the contracting officer that the anticipated cost to the Government will be fair and reasonable;
- **A description of the market research conducted** [to confirm there is only one acceptable supplier] **and the results or a statement of the reason market research was not conducted**;
- **Any other facts supporting the use of other than full and open competition**, such as an explanation of why technical data packages, specifications, engineering descriptions, statements of

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work, or purchase descriptions suitable for full and open competition have not been developed or are not available;

- A listing of the sources, if any, that expressed, in writing, an interest in the acquisition;
- A statement of the actions, if any, the agency may take to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required; and
- Contracting officer certification that the justification is accurate and complete to the best of the contracting officer's knowledge and belief.

The government customer will have to assemble most of this information, but we should develop the highlighted information for our customers to use. Since the contracting officer has to agree to sign the JOFOC justification, it must be accurate and credible.

As we discussed previously, the best justifications are those which are unequivocal and not subject to interpretation, such as space limitations in existing mechanical rooms or in new construction projects, that will accommodate a smaller number of OM-type chillers but not a larger number of smaller chillers. Also useful would be substantial economic benefit justifications, such as the avoidance of unnecessary costs for larger equipment buildings and additional controls required by a larger number of smaller chillers on a particular project. Substantial energy efficiency savings justifications would also be helpful.

Supporting technical data is helpful in JOFOC justifications. If technical data forms the basis for a justification, it must be certified as complete and accurate by the appropriate technical or requirements personnel.

Before a sole source procurement goes forward, a contracting officer must certify the accuracy and completeness of the JOFOC. Depending on the size of the procurement, different supervisors must approve the contracting officer's JOFOC certification. The larger the procurement, the higher in rank the approving official must be. Call me to discuss this further after you have reviewed it.

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SUPERSEDES: 160.00-CD7 (598)

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