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UPDATE NOTICE – REFER TO ADDITIONAL INDUSTRY QUESTIONS

AND GOVERNMENT RESPONSES, INCORPORATED ON 23 May 2014,

BEGINNING WITH QUESTION #87

Government response to ProcNet questions:

1. The PROCNET website states, ***"1.1.1 Key Features.• 100,000 lbs Lift Capacity • Travel Speed of 40 mph (primary/secondary road); 15 mph (cross country)• Fording depth of 48 inches ."***

   Question: Are we to assume that key features are key performance parameters that must be met?

   Answer: The Purchase Description (ATPD 2408) is the official document for the design of the system. The PD does not have Key Features/KPPs. All ATPD 2408 requirements must be met.

2. The PROCNET website states, ***"1.1.2 Critical System Characteristics. The Type II Heavy Crane will be capable of 100,000 lbs lifts at a distance of 10ft. The Type II Heavy Crane will be capable of operating the pile driver, clamshell bucket and concrete bucket, along with lifting concrete barriers. The Type II Heavy Crane will be transportable via C-5 and C-17 loaded. Type II Heavy Crane will be worldwide transportable via highway, rail and marine without special permit."***

   Question: Are critical system characteristics the same as Key Performance Parameters (KPPs)?

   Answer: ATPD 2408 is the official document for the design of the system. The PD does not have Key Features/KPPs. All PD requirements must be met.

   With respect to, "worldwide transportable via highway, rail and marine without special permit", how do we reconcile the statement "without special permit" with the CPD as it is defined as a critical characteristic?

   Answer: The system must be all terrain, self deployable and road legal with permits in 50 states. (ATPD 3.1)

   Additionally, can we assume that the U.S. highway system is the most stringent or must we understand worldwide transportable highway special permit regulations?

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Answer: The crane(s) shall have the capability of being transportable worldwide by rail, marine, highway, and air modes as specified in the PD (ATPD 3.4). Guidance on transportability criteria is defined in MIL-STD-1366 and SDDCTEA Pamphlet 70-1.

Has the U.S. Army evaluated worldwide transportable highway and rail special permit regulations? If so, can the U.S. Army provide the minimum acceptable "worldwide" highway and rail transport requirements that must be met or should we assume the CPD requirements on key and critical characteristics take precedent?

Answer: The crane(s) shall have the capability of being transportable worldwide by rail, marine, highway, and air modes as specified in the PD (ATPD 3.4). Guidance on transportability criteria is defined in MIL-STD-1366 and SDDCTEA Pamphlet 70-1.

3. The CPD requirement 3.4.4 Highway Transportability, states, ***"…the maximum axle loads shall only meet the minimum requirements for highway transport within the continental U.S."*** The CPD requirement 3.1 implies "road legal permits" would be acceptable.

Question: The CPD gives us the impression that special permits would be acceptable for U.S. Highway Transportability. Is this assumption correct?

Answer: The system must be all terrain, self deployable and 50 states road legal with permits (ATPD 3.1).

Answer: Additionally, please clarify if highway transport implies trailer transport, or includes highway "travel" by the Type II Heavy Crane under its own power.

Answer: Highway transport refers to the Type II Heavy Crane traveling the highway and by-ways under its own power

Please clarify the maximum axle loads to meet the minimum requirements that shall be met for three, four, or five axle cranes which might be proposed.

Answer: Axel loads shall be determined by the offeror. Guidance on transportability criteria is defined in MIL-STD-1366 and SDDCTEA Pamphlet 70-1 (ATPD 2.2).

Further, please clarify if "U.S. Highway" refers specifically to the federal interstate highway system or to "all" federal and state highways and byways.

Answer: U.S. Highways refers to all federal and state highways and byways (with permits). Axle load limit per state can be found on the web www.dot.{state}.us

We understand that all states have different permit regulations. Some state regulations are directly associated with calculations based on variations of vehicle weight and tire contact pressure length/areas. Please help us understand the maximum highway limits for

which we must assess our product offering. We need to understand clearly, in terms of either expected axle loads (federal), overall crane weight maximum, and/or controlling tire contact pressure area/lengths (states).

Answer: The Heavy Crane shall be designed to be transported within the continental U.S. with permits.

4. Page 2 of the CPD, **section 2. APPLICABLE DOCUMENTS**, contains a list of the body of applicable documents for which the U.S. Army states the Type II Heavy Crane shall comply. As a commercial manufacturer of All Terrain (AT) and Truck Cranes, we are guided first and foremost by ANSI B30.5 (U.S.) and EN 13000 (Europe) as the foundational standards that have been developed historically to ensure safe commercial crane design worldwide, these documents guide both safe design and testing requirements for AT and truck cranes. However, throughout section 2 of the PD, instead of referencing the base line commercial standards that all commercial crane manufacturers clearly understand and subscribe to, the PD predominantly (although not exclusively) references earth-moving machinery and military tactical vehicle standards as guiding in the design of the U.S. Army Type II Heavy Crane. This is certainly within the right of the U.S. Army to do. However, it is confusing to us and seemingly contradicts the desire by the U.S. Army for a commercially acceptable crane product. This is a significant area of concern for us from a crane safety and commercial manufacturing perspective. The CPD refers to OSHA 1926 regulation but it does not specifically call up the subset 1926.1400 which recently has been updated and reflects the current state of the art in the US for cranes.

Answer: The latest version of OSHA 1926 applies, as well as the section that speaks to type of crane being offered (ATPD 3.3.6).

The requirements stated in the subset are in principal mandatory for cranes used in the construction industry in the US.. The subset regulation defines a common level of safety which is accepted and proven throughout the US; as such our experts would expect direct reference to these rules and the standards contained. Additionally, the National standard ANSI B30.5 is mentioned in the PD for anti-two block devices and hazard pictorials for overhead power lines, but not mentioned in the reference list of the PD. Furthermore the ANSI B30.5 standard gives plenty of information/requirements for mobile cranes when designed/built and used, which appear to be missing in the CPD. The references to earth moving equipment specifications are confusing because they might in some cases overlap or be in contradiction to crane specific standards. We believe it would be easier for all in our industry if the U.S. Army would attempt to make reference to commercial crane standards primarily and other commercial equipment standards on the procurement only as required if they are not covered adequately by overarching crane standards. As an example, the arrangement of controls required to conform with ISO 6682 whereas cranes use arrangements according to ISO 7752. ISO 6682 defines comfort zones to easily reach controls whereas ISO 7752 defines the arrangement and directions of movements; arrangement and direction are important as these basics are standardized for all cranes and swapping of operators in between different cranes may cause safety issues without

these standards. We assume that crane cabins with controls will meet the requirements of ISO 6682 as well, but ISO 7752 should be the governing rule.

Question: Will the U.S. Army review their referenced and cited specifications to streamline the CPD to more closely follow applicable standards used by our commercial crane industry?

Answer: ISO 7752 has been added to the ATPD 2408 (ATPD 3.3.4).

We believe the CPD specifications are too lengthy and should more closely align with accepted commercial industry practices and standards as a commercial crane product is stated as desired.

Most specifically, we believe B30.5 and EN13000, and others not strongly cited in the CPD should be guiding specifications for the solicitation. Will the U.S. Army review and include B30.5 and EN13000 as the guiding specifications for the CPD procurement of commercial based Type II Heavy cranes?

Answer: ASME B30.5 has been added to section 2. Applicable Documents (ATPD 2.2.2)

5. With respect to CPD **section 4.5 Test Conditions,** applicable Test Operating Procedures (TOPs) are referenced.

Question: Are all TOPs referenced throughout the CPD to be considered as U.S. Army Aberdeen Test Center (ATC) TOPs?

Answer: TOPs for testing requirements are called out in ATPD 2408

Will the U.S. Army provide the latest version of the referenced TOPs?

Answer: Potential offerors can contact APG through the address provided in the PD to obtain copy of Test Operating Procedures (TOPs).

6. CPD **3.1 General Description and Requirements** states, ***"The Type II Heavy Crane must be all terrain, self deployable (operation and travel under its own power) and road legal with permits (adheres to Title 23 of the Code of Federal Regulations (CFR) part 658)."*** This contradicts the PROCNET website which states, ***"Type II Heavy Crane will be worldwide transportable via highway, rail and marine without special permit."*** as a critical system characteristic.

Question: Please clarify the contradiction. We are not aware of any commercial cranes of the size required to meet the lifting performance in the CPD that would not require a U.S. federal or state permit of some sort to be road legal.

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Answer: The Purchase Description (ATPD 2408) is the official document for the design of the system. All PD requirements must be met. The system must be all terrain, self deployable and 50 states road legal with permits (ATPD 3.1).

Further, we need additional guidance in the areas of height, width, and length restrictions for the Type II FOATC.

Dimension restrictions are identified in the required modes of transport. MIL-STD-1366 addresses space claims/limitation of each travel mode.

We also need specific guidance with respect to rail transport in Europe.

Answer: ATPD 2408 will be updated to reflect flatcar Rs is the required railcar to transport the Type II Heavy crane (ATPD 3.4.3).

Can special low bed rail trailers be used in Europe and the U.S.?

Answer: Special low bed rail trailers may be used by contractors' transport of system.

7. CPD **3.1.1 Commercial Offering**. States, ***"Manufacturer decals, logos and model numbers shall not be displayed on the cranes."*** On a commercial crane, manufacturer decals, logos, and model numbers are often molded or stamped into commercial parts and can therefore be difficult and costly to remove or re-design forcing negotiations with suppliers. We understand the desire for the U.S. Army to not want any externally visible trade mark decals or markings. Deleting application of manufacturer external decals and markings from a production build is easy to comply with. However, removal of seat stitching logos or molded driver compartment logos, or steering wheel logos, or vehicle components stamped with model numbers, etc. will add excessive unnecessary cost and re-design and appears inflexible with respect to a request for commercial crane offering baseline.

Question: Will the U.S. Army re-consider the requirement for not displaying any manufacturer decals, logos, and model numbers?

Answer: Externally displayed manufacturer decal, logos and model number should be limited to non-distracting displays on offered crane in flat black paint (3.1.1).

We suggest that the U.S. Army consider narrowing the restriction to externally visible or distracting manufacturer brand marketing decals and consider acceptance of inside cab logo's and parts stamps as an acceptable practice when starting with a commercial base crane and a cost saving consideration. We suggest review of less important commercial brand markings for removal during initial start of work or during a user jury after award.

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8. In review of the U.S. Munitions List indications are that any discussions of data related to Armoring or Armored Vehicles are considered International Traffic in Arms Regulations (ITAR) controlled. ITAR type data and design are considered restricted and must be controlled properly. Such data is not allowed to be provided or "exported" to non-U.S. authorized persons without specific grant of a waiver by the U.S. State Department. We need the U.S. Army to verify that all armoring information provided publicly is "not" ITAR controlled.

Answer: Offeror's shall comply with all ITAR regulations.

Further, we need U.S. Army guidance on what specifically will be considered ITAR under this solicitation.

Answer: ITAR data will be data concerning the Offeror's armor solution.

Our assumption is that our offered commercial based crane will be classified under the munitions list as EAR 99, or a commercial item. We will need the U.S. Army to confirm this and to provide any guidance or associated waivers for ITAR.

Answer: Offeror's are responsible with confirming their commercial system meets ITAR regulations. If an Offeror needs an ITAR waiver for the commercial system or the armor solution that is their responsibility.

Additionally, if there are ITAR considerations, we need the U.S. Army to provide guiding standards relative to handling and marking of ITAR controlled or restricted information.

Answer: We will not be proving any guidance or standards for ITAR compliance. That is for the Offeror's to determine through the governmental regulations if ITAR for the commercial system or the armor solution is required.

Question: Is the Type II Heavy Maintenance Crane commercial crane procurement or is it considered a military system or defense article of equipment?

Answer: Commercial crane procurement

Are commercial crane manufacturers restricted from bidding on the Type II Heavy Maintenance Crane, or must commercial companies register as U.S. defense manufacturers to participate in the Type II Heavy Crane competition?

Answer: Commercial crane manufacturers are not restricted from bidding on the Type II Heavy Crane.

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9. CPD **3.1.4 Supplemental Armor Set/Crew Protection Kit**. States, ***"The cranes shall be provided with a Crew Protection Kit that provides complete operator protection. The CPK shall survive against a minimum protection of class 2 as defined in the Army Research Report, Analysis of Threat Projectiles For Protection of Light Tactical Vehicles, ARL-RP-89, dated December 2004. The CPK shall be provided in the form of a two part "A-Kit/B-Kit". The A-Kit shall consist of permanent, non-removable portions of integral components and mounting provisions that allow the mounting of the B-Kit. The A-Kit shall include armor protection to those portions of the cabs, which by basis of design, would make it difficult or impossible for upgrading to full crew protection. The A-Kit shall also consist of underside ballistic protection to include, but not limited to, armored floor panels."*** This implies that both cabs, the lower crane driving cab, and the upper crane control cab should be armored to the same equivalent protection level. In reference to commercial crane standards, the upper cab should not be occupied during road travel. Additionally, due to upper cab location above the structural frame, there is inherent road explosive standoff and buffering from the crane frame and upper deck itself, implying that a different standard should be considered for the upper crane cab.

Question: Given the added armor weight and the offset of a typical commercial crane upper cab, and the fact that the upper crane should only be occupied when the crane is stationary and conducting craning operations, it seems reasonable that the upper cab armoring should be considered for a reduced threat environment. Will the U.S. Army consider an armor package with a lower threat rating be utilized on the rear upper crane cab to save weight and improve stability of the armored cranes?

~~Answer: The Government is willing to accept an armor solution of threat level 1 for the operator cab and threat level 2 or greater for the driver's cab as defined in ARL-RP-89 (ATPD 3.1.4).~~

Answer: The required protection level for the operator cab is class 2 and class 2 (or greater) for the driver's cab as defined in ARL-RP-89 (ATPD 3.1.4).

It is our understanding that the U.S. Marine Corps took a similar position for reduced threat environment on the upper cab of the MAC 50 crane.

10. CPD **3.1.7 ATTACHMENTS,** states ***"Each crane shall be configured with all interface components or accessories necessary to connect to and operate each attachment at full capacity. When specified the attachments shall be furnished with the crane."***

Question: What attachments must be able to accompany or be mounted on the crane proper for embarkation or travel?

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Answer: All attachments must be able to accompany the Type II Heavy Crane for embarkation or travel. The sling sets shall have a space claim on the crane proper for travel (ATPD 3.1.7 and 3.1.7.2).

Is it acceptable for all attachments to travel or be transported separately from the crane?

Answer: The sling set attachments shall travel with the Type II Heavy Crane. The Type II Heavy Crane will not be pulling a trailer. All attachments (excluding the sling set) will be transported separately (ATPD 3.1.7 and 3.1.7.2).

Is the crane required to pull a specific military trailer, or series of trailers, with all necessary mission attachments as trailer cargo in one or more loads?

Answer: No.

If so, please describe/provide the military trailer specifications, and the required maximum number of trailer loads to haul all attachments. Please provide interface specifications for attachment tie down planning and design.

Answer: Non-applicable

All of the attachments identified in ATPD 2408 shall be supplied by the contractor. The Government also requires the proposed crane have the ability to integrate the Army's current pile driver (NSN 3895-01-523-0365; TM 5-3810-307-10 or TM 5-3810-307 -24-1-1 or TM 5-3810-307 -24-1-2)

11. CPD **3.1.8 Boom** states, ***"The boom shall be a hydraulically operated, telescoping type, consisting of a base section and sliding section(s). The boom shall be capable of elevation from the horizontal to a vertical angle of not less than 70 degrees. The Type II Heavy Crane Type II shall have a reach of at least 100ft (minimum 100ft boom with jib or 100 ft boom) (T). Cranes equipped with a hydraulic boom extendable to a length of at least 120 ft (equipped with a 30 to 40 ft jib (O)."***

Question: Will a 100(T)-120(O) foot main boom without a jib meet the objective of 120 feet?

Answer: A 100 ft main boom can meet the boom requirements stated in ATPD 2408. The 120 ft objective has been removed from the PD (ATPD 3.1.8).

Is a jib actually required with a main boom to perform a specific mission over 120 feet boom length?

Answer: A jib is not required if the main boom meets the 100 ft requirement. The objective of 120 ft has been removed from the PD (ATPD 3.1.8).

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If the U.S. Army has a specific mission that requires a jib past 120 ft, please explain the mission as there are many varied jib designs (length, angles, etc.) and other boom interface and reinforcement factors to consider.

Answer: The offered crane shall have a boom with a minimum reach of 100 feet with or without a jib. Reach exceeding 100 ft may be obtained with a 30 to 40 ft jib but is not required.

12. CPD **3.2.1 Lift Capacity**. States, ***"The Type II Heavy Crane with and without CPK shall be capable of lifting a minimum of 100,000 pounds at a 10 ft. radius and able to transverse the load a minimum of 270 degrees (45 to 315 azimuth using zero (0) as straight ahead) load with outriggers fully extended. The load shall not pass over any part of the crane. Type II Heavy Crane with and without CPK shall be able to lift straight up and down (no transverse required) a load 323" long, 106" wide, 156" high, weighing 80,000 lbs (40 Tons) from the rear, and sides with a 2 ft. horizontal clearance from the crane and outriggers. The load must be able to be lifted high enough to back the family of M870 trailers under the load."***

Question: During the traversing of the 100,000 lb load, we understand it is not allowable to pass over any part of the crane. During this traverse, can the load pass over the fully extended outriggers?

Answer: No

For the entire CPD, are outriggers considered to be a part of the crane proper?

Answer: Yes

Traversing loads over the outriggers is a standard commercial practice in the U.S. and Europe. In recovery operations or commercial lifting practice, cranes are always selected to easily handle a mission load for safety margin reasons. Not having the capacity or capability to fully slew a mission load 270 degrees and over outriggers in the CPD in order to properly pick and place a load does not make sense to us. For example, in a recovery operation where ground conditions cannot be controlled and access may be limited for both the crane and the recovery M870 trailer, it is highly likely a soldier would try – or may be ordered to – slew the load over outriggers to complete a recovery. If the CPD recovery lift can only be done in a controlled yard environment where the crane and trailer can be maneuvered in a very specific way there should be special training for operators, or specific design limitations built into the crane to prevent damage or injury if max mission loads inadvertently slew over the outriggers. We suggest that the U.S. Army specify and accept a crane that will easily and not marginally meet all lifting requirements, to include full 270 degree slew for max load over the outriggers. Properly specifying lifting requirements with good margin for error will improve crane safety of use and improve the long term durability of the crane fleet overall.

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Answer: The outriggers are considered a part of the crane. Loads being lifted shall not pass over any part of the crane during operations, to include the outriggers (ATPD 3.2.1).

13. CPD **3.2.3 Stability.** states ***"The Type II Heavy Crane with CPK install on paved surface shall negotiate 30% side slopes and 15% longitudinal slopes without either wheels losing contact with the ground. Crane shall be equipped with imbedded inclinometer."Additionally, from our research we understand that prior U.S. Army crane requirements (ATEC) were to: (1) Ascend and descend, stop and start on 30-percent grades without a trailer and (2) Traverse a 15 degree side slope without a load or trailer.***

Question: Crane stability with armor (CPK) on the upper cab raises the CG of the crane and the added weight creates an asymmetrical load on the axles that helps when leaning into a slope, but reduces stability if the armored cab is on the outward side of the slope. Unarmored, commercial cranes can be expected to negotiate the stated 30% side slope. However, we envision potential problems with armored cranes. Would the US Army consider reduction of armor threat on the upper cab to reduce weight?

~~Answer: The Government will accept an armor solution of threat level 1 for the operator cab and threat level 2 or greater for the driver's cab (ATPD 3.1.4).~~

Answer: The required protection level for the operator cab is class 2 and class 2 (or greater) for the driver's cab as defined in ARL-RP-89 (ATPD 3.1.4).

Would the U.S. Army consider changing side slope requirements to be met without CPK?

Answer: The proposed crane shall negotiate a side slope of 15% with armor, with either side facing up without the wheels losing contact with the ground. Requirement has been updated in ATPD 2408 (3.2.3)

In review of ATEC requirements, is it possible that side slope and longitudinal slopes were inadvertently reversed for the Type II Heavy Crane with CPK?

Answer: The requirements for side slope and longitudinal slopes are stated correctly.

Additionally, we request clarification on the acceptability of using liquid filled "nonelectrical" or "level bubble" type inclinometers.

Answer: The ATPD 2408 has been updated to include a requirement for an Electronic inclinometer (ATPD 3.2.3).

Will these meet the requirement for "imbedded"? What is the U.S. Army definition of "imbedded" for the purpose of this requirement?

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Answer: "Imbedded" means integrated as part of the dash and communicates with the electronic system

14. In reference to CPD requirement, **3.2.5 Fording**. ***"Type II Heavy Crane Type II shall start and operate during fording operations in fresh/salt water up to a depth of 30 inches without breather tube extensions (T) and with no preparation. Type II Heavy Crane with breather tube extension shall ford to a depth of 48 inches (T); Fording 48 inches without breather tube (O). Fording, including wave action, shall be accomplished without damage or leakage of water into reservoirs containing lubricants and/or fluids."*** Our assumption is that "breather tube extensions" are not the same as "vent tubes". From the discussion, we understand breather tubes to be derived from tactical vehicle specifications that would require tube extensions for engine intake and exhaust during deep water fording. As a standard practice, vent tubes are used on axles and for other components to prevent water intrusion whether fording or under heavy rain driving conditions.

Question: Please clarify that breather tube extensions refer to extensions for engine intake and exhaust (engine breathing) for fording.

Answer: The breather tube extension identified in section 3.2.5 of the ATPD 2408 is in reference to the engine intake and exhaust for fording.

15. **Discussion:** In reference to **3.2.8 Recovery**. ***"The Type II Heavy Crane Type II shall be capable of retracting its boom and stabilizing outriggers when disabled or inoperable within 1 hour (T); within 20 minutes (O). Compatible with a dolly system for long distance transport at highway speeds without the use of the M870.HET trailer (O)."*** Dolly systems for All Terrain Cranes have many applications, such as for use in travel to support booms. Our understanding of the U.S. Army desire for compatibility with a dolly system for recovery is not clear. We assume the U.S. Army may have a dolly system that is specifically used for vehicle recovery.

Question: Does the U.S. Army have a standard dolly system for recovery operations?

Answer: The ATPD 2408 has been updated and the dolly system requirement removed.

If so, please provide the interface specifications and operating characteristics of such a dolly. We need specifics on the U.S. Army dolly anticipated to be used for long distance transport at highway speeds.

Answer: The ATPD 2408 has been updated and the dolly system requirement removed.

16. Reference CPD **3.3.1.4 Emergency Egress**. which states ***"CPK cranes shall be equipped with a separate, emergency egress (in case of vehicle rollover). The emergency egress shall allow escape in the event that the cab door is inaccessible or inoperable using***

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standard tools that would be available in an emergency situation (e.g., mounted or stored on vehicle). The emergency escape hatch shall be a fall away round design with approximately a 28" opening and 30" hatch diameter"

Question: Relative to the required escape hatch directed, can an egress window be utilized instead?

Answer: Egress from the proposed crane can be accomplished through use of a window and/or hatch.

Are the prescribed hatches required on either cabs, or just the lower cab?

Answer: Both cabs require an egress solution

Our recommendation is that the U.S. Army provides a performance specification instead of a specific design requirement.

Answer: Requirement has been updated in ATPD 2408 (3.3.1.4).

17. Reference CPD **3.3.3 Tires and Wheels.** which states, ***"All tire and wheel ratings and dimensions shall conform to the Tire and Rim Association (T&RA) or the European Tire and Rim Technical Organization (ETRTO) Standards Manual at the maximum speed of the vehicle. Tires and wheels shall conform to FMVSS 571.119 and FMVSS 571.120. Tires shall be radial type design with tread suitable for both on-highway and off-road conditions. Tires and wheels rated capacity shall be at least equal to the maximum load with armor kit imposed on each tire, measured at each wheel at the ground. Wheel shall be tested in accordance with SAEJ267 or SAEJ1992 and pass dynamic cornering and radial fatigue tests at its rated load times an accelerated test factor. Tire size, manufacturer, design and ply rating shall be the same for all tires on the vehicle. Tires shall be of the same or similar performance and durability characteristics as those that are listed on the Cooperative Approved Tire List CATL-1922 Group 3 January 2011 version. Tires when supplied shall not exceed 18 months from date of tire manufacture. The recommended tire pressure for each wheel shall be stenciled "TP (specify) LBS" in 1 inch block letters on the vehicle above or near each tire. A spare wheel/tire assembly shall be provided."***

Question: Will the U.S. Army consider using commercial crane tire specifications?

Answer: Tires supplied with proposed cranes shall meet or exceed the performance requirement ATPD 3.3.3 Tires and Wheels.

Crane tires are of a special design. Our opinion is that the Type II FOATC should use the same tires determined safe for commercial use. If there is a reason to use other than tires

specified for cranes, please provide us with a better understanding of mission feedback that would direct use of other than commercial All Terrain Crane tires.

Answer: Tires supplied with proposed cranes shall meet or exceed the performance requirement ATPD 3.3.3 Tires and Wheels.

18. In reference to CPD **3.3.4 CONTROLS**. stating, ***"All hoist and crane controls, lockouts and indicators shall be located in accordance with ISO 6682 and be within easy reach of the operator in the crane cab and shall be readily accessible under all conditions of operation. All controls shall be clearly marked. A positive swing lock for traveling shall be provided. Controls shall be provided in the crane operator's cab to permit remote control of the steering, braking and travel functions of the carrier in and around the job site. Mechanical push-pull remote controls, when furnished, shall be waterproof, heat-resistant, and antifriction. A single keyless engine switch shall be provided.*** **3.3.4.1 Instrumentation**. ***The instrument panel shall contain at a minimum the manufacturer's standard array of controls and instrumentation including those necessary to operate options and attachments. Protection from weather elements shall also be provided."***

Question: Does the U.S. Army desire that in the crane upper cab (operator's cab), controls shall be provided to permit remote control of the steering, braking and travel functions of the carrier (crane proper) in and around the job site?

Answer: Operator's cab controls shall permit remote control of steering, braking or travel function of the carrier in or the job site (ATPD 3.3.4).

19. In reference to CPD **3.3.6.3 Roll Over and Falling Object Protective Structure (ROPS /FOPS).** Stating ***"The crane, in A-Kit configuration, shall be equipped with ROPS conforming to ISO 3471 and FOPS conforming to ISO 3449. Quick disconnect fittings (electric, etc.) shall be provided as applicable to facilitate canopy removal. Slinging eyes and tie downs eyes conforming to MIL-STD 209 shall be provided to facilitate removal of ROPS/FOPS as required. Ability to pass the force requirements of ISO 3471 with CPK installed is required, and the ability to pass the deflection requirements of ISO 3471 with CPK protect the operator from injury due snapping winch lines or other objects."***

Question: Does the U.S. Army require ROPs/FOPs on upper, lower, or both cabs?

Answer: The Army requires the FOPs requirement be met on both drivers and operator's cab.

We recommend the U.S. Army use accepted commercial crane standards for cab construction rather than referencing earthmoving equipment or other associated criteria for ROPS/FOPS. The requirement for ROPS/FOPs will require major redesign of many

structural elements of any commercial crane offering. Strengthening of the cabs and crane carrier frame components is expensive and could require significant changes to the commercial crane configuration, calling into question the relevancy of prior commercial performance.

Answer: The ROPs required has been removed as a requirement for the proposed crane. ATPD 2408 has been updated (ATPD 3.3.6.3).

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20. In reference to CPD, **3.3.7.4 Blackout lighting.** Stating **"One blackout headlight conforming to military drawing 12360910 shall be mounted as close to the extreme left of the vehicle as practical and positioned to provide illumination with minimum obstruction. Two blackout composite stop/turn and marker lights conforming to MIL-DTL-32361 and two composite front turn/park and marker lights conforming to MS52126 shall be mounted in recesses, or provided with guards. The blackout lights shall be controlled by an interior switch conforming to MIL-PRF-11021 in the carrier cab. All other exterior/interior lights and the backup alarm shall be made inoperable automatically when the blackout lights are switched on. A separate wiring harness may be provided for the blackout lights. All warning lights, to include high coolant temperature and low oil pressure, shall remain active when the blackout lights are switched on. All warning lights shall be designed to restrict emissions to the visible portion of the electromagnetic spectrum between 380 and 700 nanometers. Peak emissions in the infrared region between 700 and 1200 nanometers shall be restricted to less than one percent relative to that measured in the visible region. An exception shall be made for red light sources where peak emissions in the infrared region between 700 and 1200 shall be restricted to less than ten percent relative to that measured in the visible region."**

Question: Are black out lighting data and emissions spectrum considered ITAR?

Answer: Yes, the blackout lighting data and emissions spectrum are considered ITAR.

Will the U.S. Army re-consider specification that all warning lights shall be designed to restrict emissions to the visible portion of the electromagnetic spectrum between 380 and 700 nanometers?
Answer: No. Requirement is as stated in ATPD 2408.

Crane cabs typically have warning lights imbedded in a pre-fabricated dash cluster designed to commercial standards. We recommend the U.S. Army consider turn off of all lights, including warning lights, during black-out operations. We would consider the risk of turning off dash warning lights to be of less a safety concern than turning off back-up alarm in black-out conditions. Turn-off of back-up alarms in black-out condition can lead to severe injury or death of inattentive ground guide personnel and/or damage to other equipment. Turning off dash warning lights would seem to be of less severity if a warning event occurred during black-out driving conditions.

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Answer: The Army will not accept turning off all cab lights as meeting the blackout light requirement.

21. **Typographical note: For CPD 3.3.9., we recommend that 200 F replace 2000 F. Additionally, we recommend 120 F replace 1200 F.**

Answer: Typos corrected in the PD.

22. In reference to **3.3.20 Treatment and Paint.** Stating, ***"Camouflage. When specified, the Type II Heavy Crane shall be finished in a Government furnished camouflage pattern.***

Question: Will the government consider that painting in a camouflage pattern is much more labor intensive and expensive than a single color paint scheme?

Answer: ATPD 2408 (3.3.20) has been updated to an overall paint color of standard Army green or tan to be determined at delivery order.

It is unrealistic for the government to believe that a single color paint scheme would be equivalent cost to a camouflage paint scheme of undetermined pattern.

The offered crane shall be painted as required in ATPD 2408. CARC paint is a requirement of the ATPD 2408.

23. In reference to **3.4.1 Air Transportability.** Stating, ***"The Type II Heavy Crane Type II in drive-on drive-off configuration (under its own power) with operator in the driver's seat shall be capable of transport by C-5 and C-17 aircraft (T). MIL-HDBK-1791 is available for guidance. The Type II Heavy Crane vehicles shall be air transportable while filled to a minimum 25 percent, up to a maximum 75 percent, fuel capacity."***

Question: U.S. Air Force ATLA, and commercial air transport regulations for vehicles require that fuel tanks on vehicles be purged to a minimum capacity of fuel. Please clarify that it is the requirement of the U.S. Army to have 75% fuel capacity in Type II Heavy Crane military air transport.

Answer:

a.) The requirement as stated in ATPD 2408 (3.4.1)is "The Type II Heavy Crane vehicles shall be air transportable while filled to a minimum 25 percent, up to a maximum 75 percent, fuel capacity." is accurate.

b.) AF Hazmat Reg AFMAN 24-204 states: For normal airlift; terminal to terminal operations no more than one half a tank of fuel. For mobility operations which defined means a vehicle which will be employed as soon as it leaves the aircraft in support of aircraft or field operations may have up to three quarters of a tank.

24. In reference to **3.4.3 Rail Transport** stating, ***"The crane(s) shall be rail transportable in CONUS and NATO countries without restrictions. Reference MIL-STD- 810, MIL-***

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STD-1366 and SDDCTEA Pamphlet 70-1. The crane(s) shall be capable of withstanding shock loads resulting from rail impact testing without failure, damage, or permanent deformation. The Type II Heavy Crane shall be capable of being loaded and tied down to DODX series flatcars (40000-series, 41000-series, and 42000-series) using SDDCTEA approved tie-down provisions and procedures. When secured and mounted on rail cars, the Type II Heavy Crane shall meet the dimensional requirements of the Association of American Railroads (AAR) Outline Diagram for Single Loads, Without End Overhang, on Open-Top Cars. When mounted on the railcars, the Type II Heavy Crane shall meet the dimensional requirements of Gabarit International de Chargement (GIC) equipment gauge diagram. These diagrams apply to standard gauge rail lines in the Continental United States (CONUS) and NATO countries. Cranes shall be transportable by rail with disassembly in two hour or less by the unit and component removal shall be done with equipment organic to the unit (Threshold), transport preparation in 1 hour or less by unit is desired (Objective). Tiedown patterns for each DODX series flatcar shall be provided by the contractor along with mathematical analysis proving the sufficiency of the tie-down pattern."

Question: Please clarify the type of railcars under the GIC gauge that would be acceptable for Type II Heavy Crane transport.

Answer: The list of NATO railcar available to the Army as follows: Ks/kbs/kls, Rs, Res, Rmms/Remms, Rlmmps, and Samms.

We do not believe there are any commercial crane offerings that can be GIC transported without removal of all wheels and then placed upon shoring. We do not believe this can be done within two hours or less in order to meet GIC gauge and tunnel requirements. In Europe, some tunnel restrictions will be difficult to meet without use of special design carrier railcars.

Answer: Preparation and tie-down for all modes of transport must be completed in 4 hours or less with 3 Soldiers or less. Requirement has been updated in ATPD 2408 (ATPD 3.4).

Are deep well type transport railcars an approved mode of rail transport in addition to the standard military flatcar?

Answer: Approved rail transport is based on railcars available to the Army for transport.

Additionally, must all crane attachments be transported with the Type II Heavy Crane?

Answer: All attachments (excluding the sling sets) will be transported separately (ATPD 3.1.7).

25. In reference to **3.4.4 Highway Transportability.** Stating, ***"The maximum axle loads shall meet minimum requirements for highway transport within the continental U.S. It***

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is desired that the system be capable of loading on to the HET series trailer. Prep time and tiedown for transport shall be completed in 2 hours or less with 3 Soldiers (or less).”

Question: Is the Type II Heavy Crane intended for highway transport when loaded on the U.S. Army HET series trailer?

Answer: The Type II Heavy Crane will not be transported on the HET trailer. The HET requirement has been removed from ATPD 2408. All trailer transportability requirements have been removed from the ATPD 2408.

Due to the height of typical commercial All Terrain Cranes, it is likely that highway transport of the Type II Heavy Crane on the HET series trailer will require special permit due to height restrictions for tunnels and bridges. Our understanding of the U.S. Army intent is that the Type II Heavy Crane must be transportable by HET series trailers under off-road conditions and on highways only where possible and practical. Is this assumption correct?

Answer: No

26. In reference to **6.3.9 Vehicle overspray.** Stating ***“The following items shall not be painted/ over sprayed:***

a. Data plates
b. Brake caging bolts
c. Tires
d. Tail lights
e. Reflectors
f. Sight indicators for fluid levels
g. Hydraulic hoses
h. Air hoses and air lines
i. Engine exhaust ducting
j. Tow bars
k. Air connections (Glad Hands)
l. Electrical connectors (includes switches)
m. Light lens, lens, mirrors, and glass
n. Oil filter cartridges
o. Axle air vent valves’’

Question: Crane inner boom sections and outriggers are typically heavily greased and not visible during travel operations. Will the U.S. Army allow for commercial standard painting and treatment of inner boom sections and outriggers?

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: All sections exposed (at anytime) of the boom and outriggers shall be painted as required in ATPD 2408. Manufacturer standard paint and treatment of non exposed section is acceptable, as long as the section does not become visible (ATPD 6.3.9).

We did not see Chemical Agent Resistant Coating (CARC) paint as a requirement in the CPD. Please confirm that CARC paint is not a mandatory requirement.

Answer: The entire system must be CARC painted. ATPD 2408 has been updated with CARC requirement (3.3.20).

27. In the ATPD, it states the crane shall be designed to include International Standards – ISO 3449 and ISO 3471. These ISO Standards are not applicable to Mobile Hydraulic Cranes, as the standards are required for Earth Moving Equipment which is in a different category then Mobile Cranes and as such should be deleted from the PD. Further US cranes are required to be designed per ASME B30.5 which does not require Roll over protective structures or falling object protective structures be applied to cranes.

While Rops/Fops is required on some off-highway equipment, and SAE has published performance standards for the design of ROPS/FOPS, SAE publishes a specific standard identifying the types of off-highway equipment that fit into certain categories (SAE J1116) and that standard then is used to determine if a certain design feature is required. SAE J1116 does not reference cranes and as such are excluded from meeting SAE J1116. In addition SAEJ1040, as it pertains to ROPs excludes a ROP requirement for machines that have rotating superstructure cabs, such as mobile hydraulic cranes.

Question: It is therefore requested that any reference or standards pertaining to a requirement for ROPS/FOPS be deleted from the ATPD.

Answer:

a.) The ROPs required has been removed as a requirement for the proposed crane. ATPD 2408 has been updated (ATPD 3.3.6.3).
b.) The Army requires the FOPs requirement be met on both driver's and operator's cab.

c.) All tests shall be conducted under climatic conditions specified by the Type II Heavy Crane Purchase Description or as specified in the applicable Test Operating Procedures (TOPs). All performance tests for the Type II Heavy Crane shall be conducted using JP-8 fuel (MIL-DTL-83133).

Comment: Due to EPA regulations driving the use of emission control technologies, manufactures are required to provide Tier IV compliant engines by 2015. Prior to that date the use of interim Tier IV engines are required for us in both Europe and the United States effective by 1 November 2012. Based on the Heavy Crane program, any crane

provided by an OEM under this contract will also fall into the guidelines set forth by the EPA. Furthermore, it is our understanding from the engine manufactures of the Tier IV engine, the emission control systems that are required to meet Interim Tier IV and Final Tier IV engines are intolerant of the high sulfur content present in JP-8, JP5, Jet A or Jet A1 fuels. If JP8, JP5, Jet A or Jet A are used in Tier IV or Interim Tier IV engines will result in cataclysmic damage to the engine within a few hours of running time.

Question: Is it the intent of the government to provide a new alternative "JP-8" fuel with blends that would not degrade the performance of the Tier IV engines?

Answer: The Government is not providing a new alternative fuel and does not have an alternative solution to non-compatibility of the JP-8, JP-5, Jet A or Jet A1 fuel used with Tier IV engines.

Is it the intent of the Government to request an exemption to the EPA and International Standards requiring the use of Tier IV Interim or final Tier IV engines for All Terrain Cranes to allow use of Tier III engines for use in both the United States and Europe?

Answer: An exemption to the EPA and international Standards requiring the use of Tier IV interim or final Tier IV engines for the Type II Heavy crane already exists. Guidance on the EPA National Exemption can be found in 40 CFR 89.908 and 1068.225 (ATPD 3.3.12).

Does the Government have an alternative solution to the non-compatibility of JP8, JP5, Jet A or Jet A1 fuel use with Tier IV engines that are unknown to OEM's at this time?

Answer: No

28. **Supplemental Armor Set/Crew Protection Kit**. The cranes shall be provided with a Crew Protection Kit that provides complete operator protection. The CPK shall survive against a minimum protection of class 2 as defined in the Army Research Report, Analysis of Threat Projectiles For Protection of Light Tactical Vehicles, ARL-RP-89, dated December 2004. The CPK shall be provided in the form of a two part "A-Kit/B-Kit". The A-Kit shall consist of permanent, non-removable portions of integral components and mounting provisions that allow the mounting of the B-Kit. The A-Kit shall include armor protection to those portions of the cabs, which by basis of design, would make it difficult or impossible for upgrading to full crew protection. The A-Kit shall also consist of underside ballistic protection to include, but not limited to, armored floor panels. The A-Kit shall incorporate any vehicle modifications required to allow the cranes to accept and operate with the armor package. The A-Kit shall be installed during production on every vehicle. The B-kit consists of multiple components that need to be individually installed on the crane. The B-Kit consists of all components required to completely up-armored operators and driver's cabs. When specified, the crane shall be provided with a complete A-Kit/B-Kit.

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Comment: Any All Terrain Crane, proposed to meet the Governments requirement, will have two cabs, a carrier/chassis cab and a superstructure/ operators cab. Is it the Governments intent to have the carrier/chassis cab be equipped with underside ballistic protection and the ability to accept additional add on armor?

Answer: Yes

Is it the Governments intent to have the superstructure/operator cab also have underside ballistic protection?

Answer: Yes

Will the Government accept a proposal that would offer an armored superstructure/operator cab and un-armored superstructure/operator cab that are interchangeable and can be switched out as required or only a B-Kit which consists of multiple components which need to be switched out for the superstructure/operator cab?

Answer: B-kit or C-kit is acceptable for the operator cab (ATPD 3.1.4).

If a full armored cab is acceptable, is there any need to have an A-kit cab provided as the standard cab or will the commercial cab be acceptable?
Answer: A-kit is required for all proposed crane cabs. A stand alone commercial cab is not acceptable.

~~The U.S. Army required threat level for the operator cab is threat level 1and driver cab is threat level 2 as defined in ARL-RP-89~~.
The U.S. Army required protection level for the operator cab is class 2 and class 2 (or greater) for the driver's cab as defined in ARL-RP-89 (ATPD 3.1.4).

Both cabs must have a ballistic solution. The Government is willing to acceptable an armor solution of threat level 1 for the operator cab and threat level 2 or greater for the driver's cab (ATPD 3.1.4).

29. **Winch Assembly**. The Type II Heavy Crane shall be provided with two variable speed hoist winches capable of providing sufficient line pull to support the maximum rated load (T). The winch shall have a maximum line speed not less than 3.5 ft/sec at the 3rd layer. The winch shall operate with both drop hammer type and diesel engine driven pile drivers in the current ARMY inventory. An auxiliary winch shall be provided.

Comment: Is there a specific reason the line speed at the third layer is called out? Recommend the reference to the line speed be removed as the next sentence in the section clearly states the winch shall operate with both drop hammer and diesel engine pile drivers. The last sentence will dictate what the OEM will need to do to provide a compliant crane.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: ATPD 2408 has been updated, removing required line speed (ATPD 3.1.5).

30. ATTACHMENTS. Each crane shall be configured with all interface components or accessories necessary to connect to and operate each attachment at full capacity. When specified the attachments shall be furnished with the crane. All hydraulically actuated functions shall be controlled from the operator's station. All attachments shall be provided with tie-down provisions.

Comment: Is it the intent of the Government to have the OEM provided all of the attachments identified in the ATPD?

Answer: Yes.

If so, will the Government provide a complete specification and performance parameters for each of the attachments identified in the ATPD?

Answer: Attachments provided with the Type II Heavy Crane shall meet the specs and performance of those commercial attachments normally offered with a crane of this size, unless stated in the ATPD 2408 (ATPD 3.1.7).

If attachments are not specified, are costs for such attachments to be proposed as a separate cost item and not part of the vehicle price?

Answer: Attachments will be separately CLINed in the contract and thus separately priced.

Will costs for attachments be considered as part of the overall price evaluation?

Answer: Attachments will be separately CLINed in the contract and thus separately priced.

There appears to be contradiction between the requirements of 3.1.7 and subsequent sections 3.1.7.2, 3.1.7.3, 3.1.7.4, and 3.1.7.5. For example, section 3.1.7 indicates that attachments shall be furnished with the crane “when specified” however, under the attachment sections, the term “Shall be provided” is used. Please clarify the Governments requirement in these sections.

Answer: ATPD 2408 requirement 3.1.7 Attachments has been updated. “Shall be furnished by contractor” have been removed. However the contractor is responsible for providing all the attachments identified in ATPD 2408.

The Government also requires the proposed crane have the ability to integrate the Army’s current pile driver (NSN 3895-01-523-0365; TM 5-3810-307-10 or TM 5-3810-307 -24-1-1 or TM 5-3810-307 -24-1-2).

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

31. **Attachment Interchangeability**. The Type II Heavy Crane must be ready to accept and operate all of the attachments (listed within) without any major modifications. The Type II Heavy Crane must be able to be reconfigured with any attachment and fully operational within two hours by no more than 2 Soldiers with standard tools or BII (T). Configured in one hour or less and fully operational (O).

Comment: Based on the PD all attachments must be able to be installed and operational within a two-hour period. As written, it implies the pile driver attachment must be installed within this two-hour window as well. Request the pile driver not be included in the two-hour requirement as the current pile driver in the US Army inventory will take more then 2 hours and 2 soldiers to assembled and make operational.

Answer: The install of the pile driver has been updated in ATPD 2408 to the following: "The Type II Heavy Crane must be able to be reconfigured with all attachment and fully operational within two hours (seven hours for the pile driver) by no more than 2 Soldiers (3 Soldiers for the pile driver) with standard tools or BII (T)." (ATPD 3.1.7.3)

(Please refer to TM 5-3810-307-24-1-2 for confirmation on time required to assemble the pile driver currently in the Army inventory). The adapter plates can be installed in a short period but that does not make the pile driver fully functional, as it needs to be assembled before it can be operated.

32. **Sling Set**. A 4 leg sling set with a lift capacity equal to or greater than the total lift capacity of the crane (T) shall be provided. The sling set has to be able to lift the maximum amount of weight that the Type II Heavy Crane can lift in four leg configuration. The set has to be reconfigurable to a one, two, three, and four leg configuration based on the load and weight of the load; a minimum of 25 feet in length; and be able to be reduced in size to meet different load configurations. A heavy container lifting and loading device (spreader bar) shall be provided (T). The spreader bar and sling set must be stored on the Type II Heavy Crane, positioned in a place that will not interfere in operations or maintenance.

Comment: Is it the intent of the Army to have the OEM provide the sling and spreader bar to be used with their proposed crane or is it the intent of the Army to have the OEM design their crane to be compatible with the existing Army TACOM approved spreader bar and slings?

Answer: The sling sets and spreader bar attachments identified in the ATPD 2408 shall be provided by the contractor (ATPD 3.1.7.2).

If the spreader bar and slings to be used are those currently in the Army inventory please provide drawings of the items so storage attachments can be designed for installation on the crane carrier.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: Current Army inventory is not being used to support the Type II Heavy Crane program, therefore the Army will not be providing drawing. The Type II Heavy Crane shall be provided with a 20 ton sling, 40 ton sling and a maximum heavy lift sling.

33. **Pile Driver**. A pile driver of appropriate size for the crane, capable of driving wood, concrete, and steel piles (T) shall be provided when specified. The crane shall operate with both drop hammer and diesel engine driven type pile drivers and leads. An adaptor plate shall be fabricated for the interface connection between the crane boom tip and the top of the pile driving lead. Plates shall be attached to the outer edges of the lead.

Comment: Is it the intent of the Army to have the OEM provide the pile driver to be used with their proposed crane or is it the intent of the Army to have the OEM design their crane to be compatible with the existing Army pile driver?

Answer:

a.) The pile driver attachment identified in the ATPD 2408 shall be provided by the contractor (ATPD 3.1.7.3).

b.) The Government also requires the proposed crane have the ability to integrate the Army's current pile driver (NSN 3895-01-523-0365; TM 5-3810-307-10 or TM 5-3810-307 -24-1-1 or TM 5-3810-307 -24-1-2) (ATPD 3.1.7.3).

34. **Clamshell**. The clamshell shall be a hydraulically operated general-purpose bucket, 2 cubic yard capacity, with teeth, controlled from the operator's station. A combination hose reel and tagline reel or a single reel, which utilizes the hydraulic operating hose for the tagline function, shall be attached to the crane to control and actuate the bucket.

Comment: Is it the intent of the Army to have the OEM provide the clamshell to be used with their proposed crane or is it the intent of the Army to have the OEM design their crane to be compatible with the existing Army clamshell?

Answer: The clamshell bucket attachment identified in the ATPD 2408 shall be provided by the contractor. (ATPD 3.1.7.4)

35. **Concrete Barrier Lifter**. The Type II Heavy Crane shall be provided with an attachment for the lifting of concrete T-walls and other concrete barriers weighing 400lbs - 1600lbs with widths of 4 - 12 inches. Barrier grapples with automatic actuators can lift, latch, emplace and unlatch automatically without the assistance of a secondary handler taking that soldier out of harm way.

ATPD 2408 has been updated to including lifting barriers weighing 4000-16,000 lbs. (ATPD 3.1.7.5)

Comment: Does the Army have a specific handling devise in mind to accomplish this requirement or is it the intent of the Army to have the OEM provide the handling devise based on their assumptions as to how the task will be accomplished?

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: The concrete barrier lifter attachment identified in the ATPD 2408 shall be provided by the contractor (ATPD 3.1.7.5).

36. **Concrete bucket**. When specified a 2.0 cubic yard concrete bucket with a tether material release lever operated by personnel on the ground shall be provided.

Comment: Is it the intent of the Army to have the OEM provide the concrete bucket to be used with their proposed crane or is it the intent of the Army to have the OEM design their crane to be compatible with an existing Army concrete bucket?

Answer: The concrete bucket attachment identified in the ATPD 2408 shall be provided by the contractor (ATPD 3.1.7.6).

37. **Boom**. The boom shall be a hydraulically operated, telescoping type, consisting of a base section and sliding section(s). The boom shall be capable of elevation from the horizontal to a vertical angle of not less than 70 degrees. The Type II Heavy Crane Type II shall have a reach of at least 100ft (minimum 100ft boom with jib or 100 ft boom) (T). Cranes equipped with a hydraulic boom extendable to a length of at least 120 ft (equipped with a 30 to 40 ft jib (O).

Comment: The requirement seems to imply the OEM can provide a crane with or without an extension as long as the 100 ft. reach is achieved.

Answer: The offered crane shall have a boom with a minimum reach of 100 feet with or without a jib. Reach exceeding 100 ft may be obtained with a 30 to 40 ft jib (if required). (ATPD 3.1.8)

Does this mean the OEM has a choice and can offer an extension if they want but will not be penalized if they do not as long as the 100 ft. reach is achieved?

Answer: There is no penalty for cranes offered with or without an extension/jib.

38. **Cribbing**. The cranes shall be provided with cribbing made of composite material for each outrigger that will support the maximum load of the cranes. The cribbing will be equipped with lifting handles and will not exceed a two person lift. Storage for the cribbing shall be available on the crane when not in use, that is easily accessible to the crew.

Comment: The section refers to cribbing, the comment is does the Government mean outrigger floats versus cribbing?

Answer: The cribbing requirement is for a work pad to be placed under the outrigger pad to help distribute the load per outrigger (ATPD 3.1.15).

39. **Lift Capacity**. The Type II Heavy Crane with and without CPK shall be capable of lifting a minimum of 100,000 pounds at a 10 ft. radius and able to transverse the load a

minimum of 270 degrees (45 to 315 azimuth using zero (0) as straight ahead) load with outriggers fully extended. The load shall not pass over any part of the crane.

Type II Heavy Crane with and without CPK shall be able to lift straight up and down (no transverse required) a load 323" long, 106" wide, 156" high, weighing 80,000 lbs (40 Tons) from the rear, and sides with a 2 ft. horizontal clearance from the crane and outriggers. The load must be able to be lifted high enough to back the family of M870 trailers under the load.

Comment: Based on the load described it appears the radius the load needs to be lifted at is 20 ft. plus or minus 1 ft depending on the outrigger spread for a given OEM's crane. The picture below depicts the dimensional load identified in section 3.2.1 with the crane configured to show the expected radius required to lift the load. Request the Government confirm the 20 ft radius (plus or minus 1 ft.) is correct.

Answer:

a.) The dimensional load identified in section 3.2.1 of the ATPD 240 shall be lifted straight up and down from the rear and either side of the crane and outriggers, with a minimum 2 ft horizontal clearance.

b.) The outriggers are considered a part of the crane. Loads being lifted shall not pass over any part of the crane during operations, to include the outriggers.

40. **Stability**. The Type II Heavy Crane with CPK install on paved surface shall negotiate 30% side slopes and 15% longitudinal slopes without either wheels losing contact with the ground. Crane shall be equipped with imbedded inclinometer. All moving parts shall maintain desired lubrication levels when the crane is operating under these conditions. No loss of hydraulic power to the crane control system shall be present. The fuel system shall maintain operating pressure when operating on these slopes.

Comment: The verification process Implies the crane with attachments installed will be required to be tested while traversing or sitting on a 30% slope and or a 15% longitudinal slope.

Answer: The verification process for stability of the proposed crane shall be demonstrated without attachments and applied loads. Requirement has been updated in ATPD 2408 (ATPD 3.2.3)

Please clarify as the proposed testing, if required to have attachments installed, is in direct conflict with the operating parameters used by the US Army when operating any of the attachments identified in the ATPD and violates Army Safety Standards pertaining to operation of the identified attachments.

Answer: The proposed crane shall negotiate a side slope of 15% with either side facing up without attachments or the wheels losing contact with the ground. Requirement has been updated in ATPD 2408. (ATPD 3.2.3)

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

41. **Brakes**. Independently actuated service and parking brakes shall be provided in accordance with applicable FMVSS standards. The crane carrier shall be provided with the manufacturer's standard foot controlled service brakes applied to all wheels. The service brakes with and without CPK installed shall be capable of bringing the crane to a complete, safe stop on a 15 percent slope, in both forward and reverse directions. A parking brake with and without CPK, capable of holding the crane on a longitudinal slope of not less than 15 percent, for a period of one (1) minute without slippage, shall be provided. If air service brakes are provided, air brake service and emergency line couplings conforming to SAE J10 and J318 shall be provided on the rear of the carrier. A relay emergency valve and an air dryer shall also be provided. The crane shall be able to stop in a distance equivalent to the tractor trailer vehicles of the same class, as defined by FMCSR standards.

Service brake test. The service brakes of the crane shall be tested for compliance with 3.5.3. The service brakes shall be applied bringing the crane to a complete halt to determine conformance to 3.5.3. Immediately after the crane comes to a halt, this test cycle shall be repeated for four additional cycles. All brake components, where there is indication of damage, shall be disassembled and examined.

Parking brake test. The parking brake shall be tested for compliance with 3.5.3. Inability to hold the crane on required slope shall constitute failure of test.

Comment: Under section 4.0 Service brake test, and Parking brake test, it appears that these tests should be in compliance with section 3.2.4 Brakes not the stated 3.5.3 being referenced.

Answer: Updated service brake and parking brake testing paragraph (removed reference to 3.5.3) (ATPD 3.2.4)

42. **Operating Temperature**. The Type II Heavy Crane shall be capable of starting within 5 minutes and operating within 15 minutes of starting in hot and basic climate regions (+120 □F to □F) (Threshold). upon external support such as an electrical power source. Hand-held aerosol cans or non-metered starting fluid devices are not permitted.

Low Temperature Test. The crane shall be cold soaked to attain a stabilized temperature no warmer than -25°F. Temperature stabilization shall be measured at the Following locations:

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

a. In the two centers cells of each battery between the plates and at mid-depth of the electrolyte.
b. In the center of the hydraulic system reservoir
c. In the engine oil system
d. In the engine coolant

The crane shall start within 5 minutes of initial attempt. Smooth engine running without continued control manipulation shall be attained within 15 minutes after starting. After the engine operation has stabilized and the hydraulic fluid has been allowed to reach proper operating temperature, all crane functions shall be operated. Failure to start at -25°F within 5 minutes, failure to obtain a smooth running engine within 15 minutes, inability to operate or perform any crane function or evidence of damage, deformation, breakage, or leakage of fluid, shall constitute failure of this test. See 3.9.1

Comment: Please advise where we can find referenced 3.9.1under the Low Temperature Test under 4.0; or provide the appropriate paragraph we are to refer to.

Answer: Updated "See 3.9.1" to reflect the correct reference . . . 3.3.12 (ATPD 3.2.7)

43. **Recovery**. The Type II Heavy Crane Type II shall be capable of retracting its boom and stabilizing outriggers when disabled or inoperable within 1 hour (T); within 20 minutes (O). Compatible with a dolly system for long distance transport at highway speeds without the use of the M870.HET trailer (O).

Comment: The intent of the paragraph is understood but the Army has not identified enough of the parameters necessary to establish a true fail or pass situation as the wording under the verification section will result in a failure no matter what the end results are. Several factors need to be addressed by the Army to clarify under what circumstances a test failure would occur. Example, if the engine for the crane has been disabled or destroyed (loss of electrical power) then a means to operate the recovery system, using another power resource, must be utilized such as a method to slave off of another vehicle.

In the case of a hydraulic failure, other then damage to a critical portion of the hydraulic system a method needs to be established to retract the boom and outriggers using some sort of bleed system. Example; if enough of the hydraulic system has been compromised or destroyed there is no way to collapse the crane or retract the outriggers for recovery by another vehicle until enough of the hydraulic system can be repaired. This would also include if one or more of the outriggers are damaged in which case they will need to be repaired before they can be retracted. Please look at this requirement and expand on what constitutes a pass or failure.

Answer: ATPD 2408 (3.2.8) has been updated with the followings to narrow the recovery requirement to recovery due to mechanical and/electrical failures:

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

3.2.8 Recovery. The Type II Heavy Crane Type II shall be capable of retracting its boom and stabilizing outriggers when disabled due to a mechanical failure, loss of engine power and/or loss of hydraulic pressure within 1 hour (T); ~~within 20 minutes (O).~~ A hand crank will not be acceptable as a primary solution. In the event of a hydraulic failure, as mean to bleed (release pressure) shall be provided.

44. Comment: Reference is made to a compatible dolly system to be used to recover the crane. Is it the intent of the Government to have the OEM provide a dolly with the crane or is it the Governments intent to provide a dolly for recovery missions.

Answer: The ATPD 2408 (ATPD 3.2.8) has been updated and the dolly system requirement removed.

If the dolly will be provided by the Government then information on the dolly system will be required to design features in the crane to accept the dolly attachments.

Answer: The ATPD 2408 (3.2.8) has been updated and the dolly system requirement removed.

45. **CAB**. Windows shall be safety type glass conforming to the guidelines of SAE J674. Seat belts in each cab shall be adjustable to accommodate operation by 5th percentile female through 95th percentile male personnel wearing environmental protective clothing (i.e. Arctic and Mission-Oriented Protective Posture (MOPP) IV) in accordance with SAE J899. The cabs shall be equipped with all manufacturers' commercial features, to include as a minimum: air conditioner, heater, defroster, mirrors (rear view and both external side) and electrically operated windshield wiper(s). An electric or air horn shall be provided. Space shall be available within the Type II Heavy Crane cab to stow Load Bearing Equipment (LBE), Mission-Oriented Protective Posture (MOPP) and Chemical Protective Over-garment (CPOG). Crane operation shall be achieved through use of joystick controls. The vehicle cab must be weather and dust tight/sealed both with and without CPK installed.

Weather Testing. The crane cab will be tested per MIL-STD-810, rain method 5.6.4, procedure 1 and dust method 5.10.4, procedure 1. Non compliance with 3.6 shall constitute failure of test

Comment: The verification under 4.0 for 3.3.1 Cab appears to omit any any verification that constitute a failure of the test regarding the cab being equipped with standard features along with the required storage capacity to house LBE, MOPP, and CPOG as referenced in the requirement.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: The proposed crane shall include all the standards/option available on the commercial variant required to meet the requirements of the ATPD 2408 (3.3.1).

Based on no verification being mentioned, are we to assume that even without these features, crane will still be compliant?

Answer: All requirements stated in ATPD 2408 are required to be met in order for system to be compliant.

46. Will the LBE, MOPP, and CPOG be Government furnished items that will be made available to the offeror to validate compliance to the standard?

Answer: LBE, MOPP or CPOC will not be provided as GFE for contractor testing/verification. FM 3-11.4 - MULTISERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC) PROTECTION (INCL C-1) may be used as a reference.

47. CONTROLS. All hoist and crane controls, lockouts and indicators shall be located in accordance with ISO 6682 and be within easy reach of the operator in the crane cab and shall be readily accessible under all conditions of operation. All controls shall be clearly marked. A positive swing lock for traveling shall be provided. Controls shall be provided in the crane operator's cab to permit remote control of the steering, braking and travel functions of the carrier in and around the job site. Mechanical push-pull remote controls, when furnished, shall be waterproof, heat-resistant, and anti-friction. A single keyless engine switch shall be provided.

Comment: Reference is made to a single keyless engine switch to be provided by the OEM on the crane. Is it the Governments intent that the means to start the carrier as well as the operators cab will be with a push button switch?

Answer: The driver's cab and operator's cab shall have the means to start with "keyless" solution (ATPD 3.3.4).

Regarding the last sentence, can you describe the intent of "A single keyless engine switch"? Is the single keyless engine switch an engine shut-down switch that would cut power or something else?

Answer: The OEM shall provide a means to power on and off the engine without the use of a physical removable key.

48. **Nuclear, Biological, and Chemical (NBC) Contamination**. The Type II Heavy Crane components shall be able to operate in an NBC environment and survive decontamination. It is desired that the Type II Heavy Crane be capable of being decontaminated to negligible risk levels, with minimum replacements of exposed components. The capability for the operator to decontaminate the system using onboard decontamination equipment is desired. Materials, particularly those used externally, shall

be resistant to chemical and biological agents and to the decontaminators used to neutralize these agents. For operator protection, a cab overpressure system is desired. NBC decals NSN 7690-01-474-3533 shall be adhered to the air filter. The Type II Heavy Crane shall be compatible for use by Soldiers in MOPP IV.

Comment: Is it the intent of the Government to have the OEM provide some sort of chemical and biological decontaminant with the crane or is the intent of the Government to have the OEM provide some sort of storage capability on the crane for a Government furnished decontaminant?

Answer: The OEM is not required to provide chemical or biological decontaminant with proposed crane. Nor is it the intent of the Government to require the OEM to provide storage for Government furnished decontaminates. (ATPD 3.3.5.2)

If the Government will require the OEM to furnish the decontaminant, please provide specifications on what the decontaminant must be capable of decontaminating. Are the NBC decals referenced in paragraph 3.3.5.2, "NSN 7690-01-474-3533" to be Government supplied or contractor supplied?

a.) The NBC decals shall be contractor supplied.

49. **Roll Over and Falling Object Protective Structure (ROPS /FOPS).** The crane, in A-Kit configuration, shall be equipped with ROPS conforming to ISO 3471 and FOPS conforming to ISO 3449. Quick disconnect fittings (electric, etc.) shall be provided as applicable to facilitate canopy removal. Slinging eyes and tie downs eyes conforming to MIL-STD 209 shall be provided to facilitate removal of ROPS/FOPS as required. Ability to pass the force requirements of ISO 3471 with CPK installed is required, and the ability to pass the deflection requirements of ISO 3471 with CPK installed is desired. The protective canopy IAW 1910.266(f)(3)(viii)(A), shall be constructed to protect the operator from injury due snapping winch lines or other objects.

Comment: International Standards – ISO 3449 and ISO 3471 as referenced in this section are not applicable to Mobile Hydraulic Cranes, as the standards are required for Earth Moving Equipment which is in a different category then Mobile Cranes and as such should be deleted from the PD.

Answer: The ROPs required has been removed as a requirement for the proposed crane. ATPD 2408 has been updated (ATPD 3.3.6.3).

Further US cranes are required to be designed per ASME B30.5 which does not require Roll over protective structures or falling object protective structures be applied to cranes.

Answer: The Army requires the FOPs requirement be met on both driver's and operator's cab (ATPD 3.3.6.3).

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

While Rops/Fops is required on some off-highway equipment, and SAE has published performance standards for the design of ROPS/FOPS, SAE publishes a specific standard identifying the types of off-highway equipment that fit into certain categories (SAE J1116) and that standard then is used to determine if a certain design feature is required. SAE J1116 does not reference cranes and as such are excluded from meeting SAE J1116. In addition SAEJ1040, as it pertains to ROPs excludes a ROP requirement for machines that have rotating superstructure cabs, such as mobile hydraulic cranes.

50. LUBRICATION AND FLUIDS. A centralized lubrication system shall be provided for all moving parts requiring lubrication. Type II Heavy Crane shall be operable using military lubricants (as specified below) with limited impact to durability. Initial fill lubricants shall be fully compatible to the following requirements:

a. Engine and Hydraulic Systems: MIL-PRF-2104 and MIL-PRF-46170
b. General lubrication: MIL-PRF-10924
c. Axles: SAE J2360.
d. Brakes: MIL-PRF-46176 Silicone Brake

Comment: Is it the intent of the Government to have every lubricated moving part be connected to a lubrication system or is the intent to have only critical points lubricated?

Answer: It is a requirement to have as many parts as possible connected to a central lubrication system (ATPD 3.3.10).

If only critical points are needed, please identify those specific areas that are to be lubricated.

Answer: The requirement is for as many parts as possible, not just critical points to be connected to the central lubrication system. Parts/ components that are not accessible through the centralized lubrication system shall have easy access to be manually lubricated.

51. **ENGINE**. The Type II Heavy Crane shall be supplied with a diesel engine, capable of meeting the performance specified herein while operating with turbine fuel in accordance with MIL-DTL-83133 (JP-8) as the primary fuel (or MIL-DTL-5624 , JP-5) and military lubricants without impact to commercial MTBF, reliability, and maintainability. Pollution control technologies that are affected by the sulfur level of JP-8 fuel either in maintenance or life expectancy shall not be used, e.g., Exhaust Gas Recirculation (EGR), NOX traps, catalytic converts, etc. The Crane is not subject to EPA non-road emissions standards since the cab will contain permanent armor. This determination is IAW 40CFR, sections 89.908 and 1068.225. The Contractor shall ensure National Security Exemption labeling requirements are met IAW EPA regulations. The engine provided must be of the latest technology and meet all performance requirements specified in this PD. The diesel engine shall have the capability for an unassisted –25°F cold start and operate with MIL-DTL-83133 (JP-8) as the primary fuel (or MIL-DTL-5624, JP-5).

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Comment: Due to EPA regulations driving the use of emission control technologies, manufactures are required to provide Tier IV compliant engines by 2015. Prior to that date the use of interim Tier IV engines are required for us in both Europe and the United States effective by 1 November 2012. Based on the Heavy Crane program, any crane provided by an OEM under this contract will also fall into the guidelines set forth by the EPA. Furthermore, it is our understanding from the engine manufactures of the Tier IV engine, the emission control systems that are required to meet Interim Tier IV and Final Tier IV engines are intolerant of the high sulfur content present in JP-8, JP5, Jet A or Jet A1 fuels. If JP8, JP5, Jet A or Jet A are used in Tier IV or Interim Tier IV engines will result in cataclysmic damage to the engine within a few hours of running time.
Is it the intent of the government to provide a new alternative "JP-8" fuel with blends that would not degrade the performance of the Tier IV engines?

Answer:

a. The Government is not providing a new alternative fuel and does not have an alternative solution to non-compatibility of the JP-8, JP-5, Jet A or Jet A1 fuel used with Tier IV engines.
b. Answer: An exemption to the EPA and international Standards requiring the use of Tier IV interim or final Tier IV engines for the Type II Heavy crane already exists. Guidance on the EPA National Exemption can be found in 40 CFR 89.908 and 1068.225 (ATPD 3.3.12)

52. Is it the intent of the Government to request an exemption to the EPA and International Standards requiring the use of Tier IV Interim or final Tier IV engines for All Terrain Cranes to allow use of Tier III engines for use in both the United States or Europe

Answer: An exemption already exists. Guidance on the EPA National Exemption can be found in 40 CFR 89.908 and 1068.225 (ATPD 3.3.12)
.

53. Does the Government have an alternative solution to the non-compatibility of JP8, JP5, Jet A or Jet A1 fuel use with Tier IV engines that are unknown to OEM's at this time?

Answer: The Government is not providing a new alternative fuel and does not have an alternative solution to non-compatibility of the JP-8, JP-5, Jet A or Jet A1 fuel used with Tier IV engines.

54. **Lock Out Device**. The Type II Heavy Crane must have a key operated locking device in all operator compartments that either locks the steering wheel in place or locks the transmission selector control lever in place rendering the machine inoperable until unlocked.

Comment: Under section 3.3.4. it states a keyless switch will be used to start the crane while this section states a means to lock the steering wheel will be provided. Will the

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Government accept a system, which utilizes a key switch on the steering column to lock and unlock the steering wheel and utilizing a push button on the dash to start the engine?

Answer:

a. The OEM shall provided a key operated locking device that locks the steering wheel in all compartments. (ATPD 3.3.13).
b. A keyless option shall be provided to power on and off the engine.

55. **Anti-Vandalism Protection**. The crane shall be equipped with lockable caps to secure the following:

a. Fuel tank filler cap.
b. Hydraulic oil tank filler cap.
c. Engine oil filler cap and dipstick.
d. Transmission oil filler cap and dipstick.
e. Radiator filler cap.
f. Toolbox.
g. Battery box
h. Dashboard.
i. Engine ignition

When lockable cab doors, lockable engine hoods or side panels secure any of the above items; individual locking caps are not required. Those cab doors, engine hoods or side panels and tool box(es), battery box(es), dashboard panel, engine ignition, other access hoods or panels, shall be able to be locked using a padlock eye with a minimum internal diameter of 0.375 inches.

Comment: The requirement as written needs clarification in that the requirement states the engine ignition and dashboard panel needs to be locked with a padlock using a padlock eye. Is it the intent of the Government for the OEM to use padlocks for these two requirements?

Answer: The requirement to padlock the engine ignition has been removed from ATPD 2408. (ATPD 3.3.14)

56. **Storage**. The crane shall have sufficient storage space for Additional Authorization List (AAL) publications, stowage of protective mask, Mission-Oriented Protective Posture (MOPP) gear and Load Bearing Vest (LBV) (T).

Comment: Will a protective mask, Mission-Oriented Protective Posture (MOPP) gear and Load Bearing Vest (LBV) be Government provided to contractor in order to validate conformance of this requirement?

Answer: MOPP or LVE will not be provided as GFE for contractor testing/verification (ATPD 3.3.17).

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

If not, will dimensional size and weight be provided to ensure adequate storage is available?

Answer: FM 3-11.4 - MULTISERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC) PROTECTION (INCL C-1) may be used as a reference

57. **Weapon Bracket/Storage**. All Type II Heavy Crane operator compartments must be provided with a weapons mount able to accept the M16, M4 series weapons with and without the M203 grenade launcher that secures the weapon during operations and provides the operator with unrestricted access to the weapon. Weapons mount shall be able to accept the M240B light Machine Gun and M249 Squad Automatic Weapon (T).

Comment: Please provide the drawings for the standard rifle racks currently used by the Army so the OEM can determine were the required racks can best be installed in the operator and drivers cab to allow easy access to the weapons as required in the ATPD.

Answer: Potential contractor shall provide a weapon's bracket/storage to meet the requirements of ATPD 2408. Offeror's are not required to design a solution based on a Government drawing (ATPD 3.3.18)

58. **At Platform and Embedded Diagnostic Equipment**. The Type II Heavy Crane shall have at-platform diagnostics IAW 3.3.19.1 and embedded diagnostics in IAW 3.3.19.2. The Type II Heavy Crane shall have the diagnostic capability (e.g. check engine lights, blinking / flashing lights etc.) to identify major electronically-controlled system LRU failures

Comment: Will the MSD and MSD-WICE be Government provided to allow contractor to validate and perform test?

Answer: MSD and/or MSD-WICE will not be provided as GFE for contractor testing/verification

59. **Treatment and Paint**. All external surfaces of the Type II Heavy Crane suitable for painting, except those that reach a temperature of 400 °F. shall be cleaned, treated and painted with either a top coat color of 34094 green 383 or 33446 tan 686 (see 6.2) conforming to FED-STD-595. Those surfaces that reach 400 °F during operation shall be coated with a high temperature resistant paint of limited reflectivity. Surfaces not suitable for painting shall be treated to or inherently provide a surface of limited reflectivity, as shall interior components visible from the exterior. Other internal components may be finished with the manufacturer's standard colors and paint, plating, or treatment.

Base Color. As specified in the production order the color shall be green, color no. 34094 of FED-STD-595 or tan, color no. 33446 of FED-STD-595.
Camouflage. When specified, the Type II Heavy Crane shall be finished in a Government furnished camouflage pattern.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Comment: Under section 3.3.5.2. the requirement states "Materials, particularly those used externally, shall be resistant to chemical and biological agents and to the decontaminators used to neutralize these agents." Based on our understanding of the decontaminates used by the US military the only painted surfaces able to withstand such decontaminates are those painted using CARC paint. Is it the Governments intent not to require the crane to be painted using CARC paint?

Answer:

a) ATPD 2408 has been updated to an overall paint color of standard Army green or tan to be determined at delivery order. Not requirement for camouflage. (ATPD 3.3.20)
b) The offered crane shall be painted as required in ATPD 2408. CARC paint is a requirement of the ATPD 2408.

60. Please clarify the statement "Other internal components may be finished with the manufacturer's standard colors and paint, plating, or treatment." This implies the OEM will be able to leave any portions of the crane not visually seen, when looking at the crane, left in the OEM's standard paint color. Example; the cab seat frame, if yellow, does not need to be painted per Fed Std 595 green or tan as long as it is not noticeable from outside the cab.

Answer: The Government is agreeable to allowing engine and transmission only to remain painted in OEM standard paint color (3.3.20).

61. **Welding**. Welding procedures and welder qualification shall be in accordance with AWS D14.3.

Weld Inspection. The Type II Heavy Crane shall be inspected to verify conformance to all welding requirements, as specified in 3.3.20. Non-destructive testing (NDT) of welds shall be conducted by qualified (by certification) personnel (NAS 410). The contractor shall provide compliance certification, supported by training/personnel welder certification, test data and inspection data, as objective quality evidence, of conformance.

Comment: Referenced under section 4.0 Weld Inspection, is 3.3.20, which seems to be incorrect. Please revise to reference correct requirement 3.3.21.

Answer: Reference corrected.

62. **TRANSPORTABILITY**. The crane(s) shall have the capability of being transportable worldwide by rail, marine, highway, and air modes as specified here in. Guidance on transportability criteria is defined in MIL-STD-1366 and SDDCTEA Pamphlet 70-1.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Comment: Will a copy of SDDCTEA Pamphlet 70-1 be provided by the Government? Does this requirement set criteria for with and without CPK?

Answer: Pamphlet 70-1 is available upon request from SDDCTEA. Transportability requirements applies to all configuration of the Heavy crane (3.4)

63. **Highway Transportability**. The maximum axle loads shall meet minimum requirements for highway transport within the continental U.S. It is desired that the system be capable of loading on to the HET series trailer. Prep time and tie-down for transport shall be completed in 2 hours or less with 3 Soldiers (or less).

Comment: Based on the size of the commercial variant cranes being offered, we believe that maximum axle loads will exceed the minimum requirements for highway transport. Therefore, paragraph should reference that the maximum axle loads shall meet the minimum requirements highway transport "with special permits" within the continental U.S.

Is there a specific size HET series trailer that will be utilized during highway transportation?

Answer: The Type II Heavy Crane will not be transported on the HET trailer. The HET requirement has been removed from ATPD 2408. All trailer transportability requirements have been removed from the ATPD 2408. (ATPD 3.4.4)

THE FOLLOWING INDUSTRY QUESTIONS AND GOVERNMENT RESPONSES ADDED BY TO Q&A SUMMARY ON 10 APRIL 2013:

64. **3.1.5 Winch Assembly.** The Type II Heavy Crane shall be provided with two variable speed hoist winches capable of providing sufficient line pull to support the maximum rated load (T). The winch shall operate with both drop hammer type and diesel engine driven pile drivers in the current ARMY inventory as well as the pile driver required within this document. An auxiliary winch shall be provided.

Comment: *The winch shall operate with both drop hammer type and diesel engine driven pile drivers in current ARMY inventory as well as the pile driver required within this document. As identified in Answers to PD provided on ProcNet Question #10, "The Government also requires the proposed crane have the ability to integrate the Army's current pile driver NSN: 3895-01-523-0365.*

Question: *Could you provide the NSN for the drop hammer type pile driver the Army intends to be used with the new crane so interface requirements can be determined?*

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: Requirement for the drop hammer style pile driver has been removed.

65. **3.1.7.2 Sling Set.** A 4 leg sling set with a lift capacity equal to or greater than the total lift capacity of the crane (T) shall be provided. The sling set has to be able to lift the maximum amount of weight that the Type II Heavy Crane can lift in four leg configuration. The set has to be reconfigurable to a one, two, three, and four leg configuration based on the load and weight of the load; a minimum of 25 feet in length; and be able to be reduced in size to meet different load configurations. A heavy container lifting and loading device (spreader bar) shall be provided (T). The spreader bar and sling set must be stored on the Type II Heavy Crane, positioned in a place that will not interfere in operations or maintenance.

Answer: The reference paragraph is not current. The current paragraph is as follows*:*

3.1.7.2 Four (4) Leg Sling Set. A 20 ton sling, 40 ton sling and a maximum heavy lift sling set with a lift capacity equal to or greater than the total lift capacity of the crane (T) shall be provided. The heavy lift sling set has to be able to lift the maximum amount of weight that the Type II Heavy Crane can lift in four leg configuration. The all three sets shall be reconfigurable to a one, two, three, and four leg configuration based on the load and weight of the load; a minimum of 25 feet in length; and be able to be reduced in size to meet different load configurations. A heavy container lifting and loading device (spreader bar) shall be provided (T). The spreader bar and sling set must be stored on the Type II Heavy Crane, positioned in a place that will not interfere in operations or maintenance.

Comment A.: A 4 leg sling set with a lift capacity equal to or greater than the total lift capacity of the crane (T) shall be provided. The sling set has to be able to lift the maximum amount of weight that the Type II Heavy Crane can lift in four leg configuration.

Is there any specific reason that the sling set should lift the total capacity of the crane or maximum amount of weight the crane can lift, or is the intent to only lift the minimum of 100,000 pounds as stated in PD 3.2.1 Lift Capacity?

Answer: The sling shall coincidence with the maximum rated lift of the offered crane.

Suggestion: If the intent is to only be required to lift the maximum load identified in the PD change this requirement to read that a 4 leg sling set with a lift capacity equal to or greater than 100,000 pounds shall be provided.

Question: Is it the intent of the Government to have the crane utilize an existing sling set in the Army inventory? If so please provide the NSN for the sling set.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: No. The sling set shall be provided by the contractor.

Comment B.: *The set has to be reconfigurable to a one, two, three, and four leg configuration based on the load and weight of the load; a minimum of 25 feet in length; and be able to be reduced in size to meet different load configurations.*

Question: *Please provide the maximum dimensions of the load that is required to be lifted as this will determine the length of the sling legs needed to meet the requirement.*

Answer: The maximum dimension has been identified under the lift capacity requirement 3.2.1 (323" long, 106" wide, and 156" high)

Comment C: *The set has to be reconfigurable to a one, two, three, and four leg configurations based on the dimensions and weight of the load.*

Question: *This implies each individual sling leg must be capable of lifting the cranes maximum lift capacity irrespective of their combined lift capability. Is this the intent of the Army? If so then the lift capability of the sling will be 4 x times the maximum lift capacity of the crane. Please clarify if this is the true requirement.*

Answer: Each individual sling leg capacity equally added together to make a four part sling shall equal the total weight capacity the crane may lift

66. **3.2.1 Lift Capacity.** The Type II Heavy Crane with and without CPK shall be capable of lifting a minimum of 100,000 pounds at a 10 ft. radius and able to transverse the load a minimum of 270 degrees (45 to 315 azimuth using zero (0) as straight ahead) load with outriggers fully extended. The load shall not pass over any part of the crane.

Type II Heavy Crane with and without CPK shall be able to lift straight up and down (no transverse required) a load 323" long, 106" wide, 156" high, weighing 80,000 lbs (40 Tons) from the rear, and sides with a 2 ft. horizontal clearance from the crane and outriggers. The load must be able to be lifted high enough to back the family of M870 trailers under the load.

Comment: *The Type II Heavy Crane with and without CPK shall be capable of lifting a minimum of 100,000 pounds at a 10 ft. radius and able to transverse the load a minimum of 270 degrees (45 to 315 azimuth using zero (0) as straight ahead) load with outriggers fully extended. The load shall not pass over any part of the crane.*

Question: *Is lifting 100,000 pounds at a radius greater than 10 ft. acceptable?*

Answer: Your proposed crane must demonstration that it is capable of lifting 100,000 lbs at 10 ft. Lifting 100,000 lbs at a radius greater than 10ft is acceptable.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Question: *What are the dimensions of the 100,000 pound load being lifted?*

Answer: Dimensions are not available. There is no 100,000 lbs load identified. The lift capacity is what is required. It is a point load, used to scale the crane.

67. **3.3.1 CAB.** Windows shall be safety type glass conforming to the guidelines of SAE J674. Seat belts in each cab shall be adjustable to accommodate operation by 5th percentile female through 95th percentile male personnel wearing environmental protective clothing (i.e. Arctic and Mission-Oriented Protective Posture (MOPP) IV) in accordance with SAE J899. The cabs shall be equipped with all manufacturers' commercial features, to include as a minimum: air conditioner, heater, defroster, mirrors (rear view and both external side) and electrically operated windshield wiper(s). An electric or air horn shall be provided. Space shall be available within the Type II Heavy Crane cab to stow Load Bearing Equipment (LBE), Mission-Oriented Protective Posture (MOPP) and Chemical Protective Over-garment (CPOG). Crane operation shall be achieved through use of joystick controls. The vehicle cab must be weather and dust tight/sealed both with and without CPK installed.

Comment: *The cabs shall be equipped with all manufacturers' commercial features, to include as a minimum: air conditioner, heater, defroster, mirrors (rear view and both external side) and electrically operated windshield wiper(s).*

Suggestion: *Remove the "rear view mirror" requirement from the specification.*

Answer: Requirement has been updated with the removal of "rear view mirror".

Rationale: *Cranes of this type and size do not offer a "rear view" mirror in the carrier cab as there is no rear window, only the carrier body, directly behind the carrier cab. Additionally the operators cab does not offer a rear view mirror as the rearward view is normally obstructed by the counterweight. The standard practice is to offer cranes with external mirrors to allow visibility around the crane while driving from the carrier or superstructure cab.*

68. **3.3.7 ELECTRICAL SYSTEM.** The Crane shall be equipped with the Contractor's standard commercial 24-volt negative ground electrical system in accordance with SAE J1614 and J1908. The electrical circuitry, including all components and connections, except as specified below, shall be protected from the effects of fungus growth and moisture:

a. Components or circuit elements that are inherently fungus and moisture resistant or which are hermetically sealed need not be treated.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

b. Components or circuit elements whose functions will be adversely affected by fungus preventative and moisture coating shall not be treated.

Comment: *Should section b. be revised to state that these components "shall" be treated?*

Answer: No. The requirement is correct as stated.

69. **3.3.6.3 Falling Object Protective Structure (FOPS).** The crane, in A-Kit configuration, shall be equipped with FOPS conforming to ISO 3449. Quick disconnect fittings (electric, etc.) shall be provided as applicable to facilitate canopy removal. Slinging eyes and tie downs eyes conforming to MIL-STD 209 shall be provided to facilitate removal of FOPS as required. Ability to pass the force requirements of ISO 3471 with CPK installed is required, and the ability to pass the deflection requirements of ISO 3471 with CPK installed is desired. The protective canopy IAW 1910.266(f) (3) (viii) (A), shall be constructed to protect the operator from injury due snapping winch lines or other objects.

Comment A: *The Falling Object Protective Structure (FOPS) is not required by ASME B30.5 which guides the design for manufacturing cranes, nor is FOPS required by International Standards for cranes. Since the Army has stated FOPS is a requirement for the crane please provide the following information as it will be required for the development of a FOPS system for the crane since FOPS is not a design feature for mobile hydraulic cranes under BSME B30.5 and as such a redesign of the carrier and superstructure cabs will be require.*

Request: *Please provide a detailed explanation of the FOPS requirement the Army expects to see on the crane and how it will be tested as well as any specifications or National standards that are expected to be met.*

Answer: Please reference ISO 3449 and ISO 3471. A certification is required. The Army is not testing the FOPS solution

Request: *Please clarify if there are two different specifications that will be required to be met for the crane, i.e. one for the standard cab and one for the armored version.*

Answer: Yes, both ISO 3449 and ISO 3471 are the required specification to met with all configuration of the cabs.

Request: *Since both the operator (superstructure) and carrier cabs are required to have FOBS please provide the standards to be used for each individual requirement, both standard and armored versions of the cabs.*

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: ISO 3449 and ISO 3471 are the required specification to met with all configuration of the cabs

Comment B: *The crane, in A-Kit configuration, shall be equipped with FOPS conforming to ISO 3449. Quick disconnect fittings (electric, etc.) shall be provided as applicable to facilitate canopy removal. Slinging eyes and tie downs eyes conforming to MIL-STD 209 shall be provided to facilitate removal of FOPS as required.*

Question: *Is the intent of the Government to allow the contractor a choice to provide either a removable FOPS or an integrated system?*

Answer: A removable FOPS or FOPS integral to the system is a design choice of the contractor, which may be dictated by an A-kit/B-kit or A-kit/C-kit solution for the cabs.

Question: *If integrated is acceptable, does the cab need to be removable and provide Quick disconnect fittings to facilitate the removal?*

Answer: Quick disconnect is required for a removable design.

70. **3.3.9 Hydraulic system.** The hydraulic system shall include, in addition to normal system components, a full flow filter and control valves to insure positive control of boom hoist, boom telescope, rope hoist and outriggers in all operations in event of loss of hydraulic power due to ruptured hoses or loss of engine power. Hydraulic line circuit and filtration shall be in accordance with SAE J931. The pump(s) shall be driven by the crane engine and shall have sufficient capacity to operate all hydraulically powered components. Hydraulic oil shall conform to the requirements of MIL-PRF-2104. All rods which will be exposed during operation shall have a hard chromium or similar plating. Hydraulic tank oil temperature shall not exceed 200oF with an ambient temperature of 120oF while performing repetitive craning operations. All hydraulic hoses shall be enclosed or routed to preclude external damage. The hydraulic tank fill port shall be equipped with a removable filter screen.

Hydraulic performance. The contractor shall furnish certified test reports to prove compliance with hydraulic system requirement of 3.3.9. If certified test is not available, these requirements shall be demonstrated.

Inability of the pump to drive the engine and provide sufficient capacity to operate all hydraulically powered shall constitute failure of this test.

Comment: *Should the reference under the verification portion state the "Inability of the engine to drive the pump and provide sufficient capacity to operate all hydraulically powered shall constitute failure of this test". This in lieu of "pump to drive the engine".*

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: The verification has been updated to read as follows: "Inability of the pump to provide sufficient capacity to operate all hydraulically powered components shall constitute failure of this test"

71. **3.4.7 Towing.** Tow hooks or other suitable means of attaching a tow cable or tow bar shall be provided on the front and rear of the Type II Heavy Crane (T). Tow bar lugs shall be compatible with MS500004.

Comment: *The MS500004 government standard has been cancelled without replacement. Is there another standard the contractor should use in lieu of this specification?*

Answer: NATO STANAG 4478

72. **3.1.4 Supplemental Armor Set/Crew Protection Kit.** The cranes shall be provided with a Crew Protection Kit that provides complete operator protection. The CPK shall survive against a minimum protection of class 1 for the operator's cab and class 2 for the driver's cab, as defined in the Army Research Report, Analysis of Threat Projectiles For Protection of Light Tactical Vehicles, ARL-RP-89, dated December 2004. The CPK shall be provided in the form of a two part "A-Kit/B-Kit". The A-Kit shall consist of permanent, non-removable portions of integral components and mounting provisions that allow the mounting of the B-Kit. The A-Kit shall include armor protection to those portions of the cabs, which by basis of design, would make it difficult or impossible for upgrading to full crew protection. The A-Kit shall also consist of underside ballistic protection to include, but not limited to, armored floor panels. The A-Kit shall incorporate any vehicle modifications required to allow the cranes to accept and operate with the armor package. The A-Kit shall be installed during production on every vehicle. The B-kit consists of multiple components that need to be individually installed on the crane. The B-Kit consists of all components required to completely up-armored operators and driver's cabs. When specified, the crane shall be provided with a complete A-Kit/B-Kit.

The driver's cab CPK solution survive against a minimum protection of class 3 as defined in the Army Research Report, Analysis of Threat Projectiles For Protection of Light Tactical Vehicles, ARL-RP-89, dated December 2004 is desired.

Comment: Could you provide clarification on the paragraph 3.1.4 of the PD? As written below it states the operator's cab shall survive minimum protection of class 1 and driver's cab a class 2. However in the second paragraph it states the driver's cab CPK solution

survive against a minimum protection of class 3. This appears to be a contradiction but could you please clarify which class of protecting is being requested as the minimum level acceptable.

~~**Answer:** the requirement is threshold class II for the driver's cab, class III is 'desired' per the ATPD language.~~

Answer: Paragraph 3.1.4 has been updated. The U.S. Army required protection level for the operator cab is class 2 and class 2 (or greater) for the driver's cab as defined in ARL-RP-89 (ATPD 3.1.4).

73. As mentioned in several other questions and comments to the PD, ISO3449 and ISO3471 were developed for Earth-moving machinery equipment not cranes.

Reference: PD Paragraph - 3.3.6.3 Falling Object Protective Structure (FOPS). The crane, in A-Kit configuration, shall be equipped with FOPS conforming to ISO 3449. Quick disconnect fittings (electric, etc.) shall be provided as applicable to facilitate canopy removal (if required). Slinging eyes and tie downs eyes conforming to MIL-STD 209 shall be provided to facilitate removal of FOPS as required. Ability to pass the force requirements of ISO 3471 with CPK installed is required, The protective canopy IAW 1910.266(f) (3) (viii) (A), shall be constructed to protect the operator from injury due snapping winch lines or other objects.

Comment: Based on the revised paragraph 3.3.6.3, is it the Army's intent to have a crane with FOPS that is designed to meet the requirements of both a FOPS and ROPS requirement? It would appear that although ROPS has been removed from the PD, the FOPS paragraph is incorporating the requirements of ROPS as well by requiring that the FOPS have the ability to pass the force requirements of ROPS ISO3471.

Answer: The requirement of the ISO 3471 has been removed from the PD. There is no ROPS requirement.

For example, the forces referenced in ISO3471 refer to Lateral Load Force, Lateral Load Energy, Vertical Load Force, and Longitudinal Load Force, which are associated with a roll over event. Conversely, ISO 3449 only specifies energy based on a mass and distance used to perform a test that is dropping an object.

Since the ISO3471 standard is to cover Roll-over protective structures and are not required on this program, we recommend that reference to ISO3471 be removed from the PD.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: The requirement of the ISO 3471 has been removed from the PD. There is no ROPS requirement.

In the event that this standard is not removed from the PD, please provide a detailed explanation of what force requirements of ISO 3471 are to be met and to what extent, as the FOPS conforming to ISO3449 will not be designed to meet the requirement of ROPS ISO 3471.

Additionally, under FOPS ISO3449, there are two levels of performance criteria specified for impact protection, based on the machine end use. Since this standard is for Earth-moving machinery and not cranes, please identify which level is to be tested and met for this program.

Answer: Both levels are required to be met.

Lastly, please identify where "IAW 1910.266(f)(3)(viii)(A)" can be found to ensure we meet this requirement.

Answer: The reference identified in the PD is the requirement to meet.

74. Will the US Army drop the requirement for the winch compatibility with a drop hammer type pile driver?

Answer: Requirement for a drop hammer type pile driver has been removed (previously) from ATPD 2408.

75. Section 3.1.9 prescribes use of a “Load Moment System” or LMI. However, in reality current operational systems with the US Army are of a “Rated Capacity Limiter” type or RCL. Please see definitions in the attached SAE standard provided as reference. Often the terms LMI and RCL are used interchangeably in the crane world, but there are key differences. The SAE J159 that is listed in the FOATC Type II specification is a reference is for an RCL and not a LMI. For further clarification:

Load Moment Indicator is just what it describes, it displays (the load) X (the distance).

Rated Capacity Limiter (or system) is also just as it sounds. The RCL calculates the capacity of the crane based on its configuration and the location of the load and then displays how much you can lift at that point, and calculates how much load you have on the crane. Most important from a safety perspective, it has the ability to limit the operator’s movement of a lift outside a pre-set safety envelope. This can be over ridden for specific mission requirements. But, it is an important safety aspect of consideration and incorporation.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Will the US Army consider use of the term RCL in place of the term LMI? At a minimum we request the terms LMI and RCL be considered as interchangeable for the purpose of the solicitation.

Answer: The requirement in the ATPD2408 is for a load moment system that adheres to SAE J159.

76. The requirement, identified in the PD under section 3.3.6.3, references ISO 3449 which is specific to Earth Moving Equipment, where during operation of the equipment items being pushed over by the earth or lifted above the cab with an open bucket or scooping device. These actions could cause an object to fall on the operator cab. As such the necessity for a FOPs device is critical to the overall operation of the earth moving piece of equipment. As stated the need for the FOPs is based on the fact the earth moving piece of equipment is pushing or lifting an object which could cause it or something next to it to fall on the piece of the earth moving equipment.

Answer: ISO 3449 originated as a requirement for Earth Moving Equipment. The Heavy Crane also has a requirement to be protected to the levels identified in the ISO standard

77. ISO 3449:2005 (E) is the international standard for FOPS and as such was approved by a minimum of 75% of the international board members agreeing to the standards in ISO 3449:2005 (E). The standard, as written excluded mobile hydraulic cranes from having a requirement for FOPS as it was deemed by the International Community as an item that did not lend itself to the types of operations mobile hydraulic cranes perform or how they are configured and designed for operation. The definition of FOPS, per ISO3449 Paragraph 3.1 states “system of structural members arranged in such a way as to provide operators with reasonable protection from falling objects (trees, rocks, small concrete blocks, hand tools, etc.)”.

Answer ISO 3449 may not have written with intend to include mobile cranes. However the Heavy crane does a requirement to have the level of protection in the ISO standard.

78. The earth moving piece of equipment has an operator cab which is tied directly into the vehicles frame and as such the FOPs can be tied directly into the carrier frame and act as the support brace for the FOPs as well as absorb the weight of the dropped item above the cab frame

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: The Government has updated ATPD 2408 (dated July 25, 2013); the requirement for FOPS on the operator's cab was removed.

79. In the case of the crane the operator cab is required to rotate with the superstructure during operation. The reason ASMEB30.5 and ISO3449 do not require a FOPs as part of the required design parameters for a crane is that since the operator cab is required to rotate with the superstructure the operator cab is not mounted to the carrier base but is suspended from the side of the turn table bearing. Per ISO3449 Paragraph 5.2.2 "all cab elements, such as windows, normally removable panels or non-structural fittings, shall be removed so they do not contribute to the strength of the FOPS" What this means, in the case of a mobile hydraulic crane with a swinging operator cab, is that the cab frame cannot be used as part of the structural support for the FOPS and as such the FOPS will need to be tied into the crane carrier structure without using the operator cab.

Answer: The Government has updated ATPD 2408 (dated July 25, 2013); the requirement for FOPS on the operator's cab was removed.

80. Since the operator cab is suspended above the carrier frame there is no way to place a structure over or around the operator's cab and tie it into the carrier frame to support the FOPs structure and still allow the operator cab to rotate 360 degrees during operation of the crane. Further, since the crane operator cab is not tied directly into the carrier frame the only way to mount FOPs would be to design a frame to go over and around the operator cab and be tied directly into the turn table frame.

Answer: The Government has updated ATPD 2408 (dated July 25, 2013); the requirement for FOPS on the operator's cab was removed.

81. When operating a crane a lifted load is not allowed to be swung over the operator cab during lifting operations. With that said the way cranes are designed today the greatest angle that can be achieved during a lift is 80-84 degrees which, in order for a load to be swung over the operator cab, would theoretically cause the load to hit the erection cylinder or a portion of the boom. In addition the load chart for this size of crane does not allow an operator to lift a load nearer than 8-10 feet from the center line of rotation of the crane and as such does not place any lifted load over the operators cab during operation of the crane.

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: The Government has updated ATPD 2408 (dated July 25, 2013); the requirement for FOPS on the operator's cab was removed.

In addition to the operators cab the PD also requires FOPs protection for the carrier cab. During craning operations it is strictly prohibited for an individual to be in the carrier cab during lifting operations. Also normal operation of a crane, when lifting and swinging loads, are to not swing a load/object over the crane carrier during lifting operations. Additionally the PD specifically states that any lifted load will not be "lifted over any portion of the crane carrier or outriggers when lifting and swinging a load".

Answer: the load over the carrier cab is prohibited. However FOPs protection is still requirement. An accidental load falling may leave the crane disabled. The Heavy Crane has a requirement to be protected to the levels identified in the ISO standard.

82. The way carrier cabs are designed, the drivers cab is located in such a way as to be forward of the carrier frame and suspended from the carrier by struts to move the carrier cab weight as far forward as possible from the front axles to reduce axle loads. Design of FOPs for the carrier cab will present the same type of issues as the operator cab in that there is little or no structure to which the FOPs frame can be tied into on the carrier frame. Any FOPS structure will out of necessity have to be a cage that extends up from the carrier frame then over the top of the carrier cab and down and out over a portion of the windshield of the cab. In principle this can be done but, at a price, as the FOPS structure will prevent the boom from resting in its present location which will require a new boom rest which will increase the overall height of the crane during travel operations by at least 18-24 inches. This in itself will present numerous problems associated to road and rail movement of the crane.

Answer: A solution to provide FOP protection is required.

83. In addition to the operators cab the PD also requires FOPs protection for the carrier cab. During craning operations it is strictly prohibited for an individual to be in the carrier cab during lifting operations. Also normal operation of a crane, when lifting and swinging loads, are to not swing a load/object over the crane carrier during lifting operations. Additionally the PD specifically states that any lifted load will not be "lifted over any portion of the crane carrier or outriggers when lifting and swinging a load". . . . .

Comments:

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Section "3.3.4 CONTROLS of the PD states: Controls shall be provided in the crane operator's cab to permit remote control of the steering, braking and travel functions of the carrier in and around the job site.

Based on the design features of All Terrain Cranes, of the type required to meet the requirements of ATPD 2408, and the PD requirement for all offered cranes to be able to be driven and operated from the superstructure cab, damage to the carrier cab will not make the crane inoperable unless the carrier cab is:

Crushed to the point where the carrier cab is driven into the ground.

The carrier cab is pushed into the front tires of the crane making it impossible to move the vehicle either under its own power or being towed.

Extensive damage to the dashboard (caused by the cab being crushed) which causes a loss of the cranes electrical system making it impossible to operate the crane till the electrical system has been repaired.

In the damage described above, which would disable the "complete crane", the dropped load would far exceed the ability of any FOPS protection required under ISO3449.2005 (E). Level 2, requires a load of 500 lbs. at a distance of 17 feet. The 500 lbs. drop weight is less than the expected weight of the cranes hook block (approximately 1,800) or any load the crane would likely lift while performing a lifting operation.

Further All Terrain Cranes are designed in such a way that each cab, carrier and superstructure, can be operated independent of each other, with the understanding that the carrier cab can only be used for driving operations while the superstructure can be used to operate the crane lifting functions as well as for driving of the crane. Because of the dual and single operation of the two cabs damage to the carrier cab, unless so dramatic as to make the crane totally disabled, will not affect the operation and driving capability from the superstructure cab.

If it is the sole intent of the Government to require the crane to be operational, if the carrier cab is damaged from falling objects i.e. does not disable the crane from performing driving and lifting operations, then the removal of FOPS, as a requirement for the carrier cab, does not negate that intent

It is therefore requested that the requirement for FOPS, for the TYPE II HEAVY CRANE, carrier cab be deleted from the Purchase Description for the stated reasons above

NOTE: The responses below are for informational purposes only and all proposals should be in response to information provided in the RFP only.

Answer: The load over the carrier cab is prohibited. However FOP's protection is still required. An accidental load falling may leave the crane disabled. The Heavy Crane has a requirement to be protected at a minimum to the levels identified in the ISO standard.

84. We understand LTAS design and manufacturing information is available upon request (prints, etc.). What steps are required to obtain this information?

Answer: The Technical Data Package on the LTAS FMTV Cab is available to companies who are currently under contract with the US GOVT. Inquires on release need to be staffed through the PCO on that contract to the Medium Tactical Wheeled Vehicle Office.

85. Will the Government provide the TDP for the M987 A3 or A4 cab with CPK? This request includes any weight and provisioning details as well. Does the Government own the data rights to these cabs and kits? If so, who would be the POC contact for requesting the information?

Answer: The Technical Data Package on the M987 Cab is available to companies who are currently under contract with the US GOVT. Inquires on release need to be staffed through the PCO on that contract to the Tactical Wheeled Vehicle Office.

86. The US Army has established a precedent that lights using "Polycarbonate" lenses are acceptable in some applications. The lighting on the MRAP is one example of this. The Polycarbonate lenses are both highly impact resistant and will not shatter. Polycarbonate is used in many ballistic and shock protection applications. Will the ARMY accept the use of lights with Polycarbonate lenses in place of the requirement to have brush guards covering the lights?

Answer: The requirement is to have brush guards covering the lights. Alternatives will not be assessed as part of the source selection.

87. Comment:
Attachment 0025 Simulator Spec, Paragraph 1.1.1 states: Loads moved clamshell operations, loading ISO containers, pallets, barrels on truck using spreader/tandem lock/slings, loading round loads onto trailers with
chocker slings, possible loading of equipment as well like dozers and trucks.

Question:
Is it the government's intent to have the simulator replicate all the attachments listed in APD2408 requirements 3.1.7: 3.1.7.2 Sling Set, 3.1.7.3 Pile Driver, 3.1.7.4 Clamshell, 3.1.7.5 Concrete Barrier Lifter, and 3.1.7.6 Concrete bucket? If so, can further definition

of clamshell operation be provided? For example, will deformable terrain be needed to simulate a dig with clamshell.

Answer: No. The simulator is only required to include the load models listed in 1.3.13.2

Comment:
Attachment 0025 Simulator Spec., Paragraph 1.3.6 states: Student Station Configuration. The student station shall be one integrated platform and be constructed to simulate the cab layout and controls of the Heavy Crane.

Question:
Is it the government's intent to have an actual operator cab replicated (ie floor, door, roof, etc.) that would be a realistic representation of the space available inside the heavy crane cab?

Answer: No. The requirement for the student field-of-view shall be 180 degrees horizontal and 60 degrees vertical. The visual display shall portray the simulated training environment utilizing the visual interface (e.g., windshield, windows, etc.) with applicable obscurations and restrictions of the specific equipment being simulated. This shall include the ability to display the operators cab in an armored and unarmored configuration.

We do not require the student to have an immersed simulation.

Comment:
Attachment 0025 Simulator Spec., Paragraph 1.3.6.3 states: Provide a Common Access Card (CAC) reader for the purpose of logging student's information into the simulator for student data collection.

Question:
Is it the government's intent to have the CAC reader at the student station or at the Instructor Operator Station?

Answer: Only at the student station. The Instructors station collects the data from the student station.