



## **MISSISSIPPI DEPARTMENT of WILDLIFE, FISHERIES, AND PARKS**

Lynn Posey, Executive Director

1505 Eastover Drive

Jackson, Mississippi 39211

(601) 432-2400

### **MINORITY AND WOMEN OWNED BUSINESSES ARE ENCOURAGED TO APPLY**

**SOLICITATION:** Invitation for Bid (IFB)

**SOLICITATION NUMBER:** RFX #3160006257

**DESCRIPTION:** Up to Three (3) Crawler Tractors

**ISSUE DATE:** October 31, 2023

**BID CLOSING LOCATION:** Mississippi Department of Wildlife, Fisheries, and Parks  
1505 Eastover Drive  
Jackson, Mississippi 39211

**BID COORDINATOR:** Candice Webster  
Telephone: 601.432.2154  
Email: [candice.webster@wfp.ms.gov](mailto:candice.webster@wfp.ms.gov)

**OPENING DATE AND TIME:** November 21, 2023, 2:00 PM CT

## GENERAL INSTRUCTIONS

### Section 1 – Background, Authority, and Objective

The mission of the Mississippi Department of Wildlife, Fisheries, and Parks is to conserve and enhance Mississippi's wildlife, fisheries, and parks, provide quality outdoor recreation, and engage the public in natural resource conservation.

The Mississippi Department of Wildlife, Fisheries, and Parks (hereinafter "Agency") has issued this solicitation for the purpose of soliciting sealed bids from qualified vendors to provide lawncare and landscaping services.

### Section 2 – Timeline

Invitation for Bid Issue Date	October 31, 2023
Questions and Requests for Clarification Deadline	November 10, 2023
Anticipated Posting of Written Answers to Questions	November 15, 2023
Bid Submission Deadline	November 21, 2023 , 2:00 pm
Bid Opening	November 21, 2023, 2:00 pm
Anticipated Date of the Notice of Award	November 22, 2023
Post-Award Debriefing Request Deadline	November 29, 2023
Anticipated Post-Award Debriefing Held By	December 30, 2023
Protest Deadline	December 4, 2023
PPRB Board Meeting, if applicable	January 6, 2024
Anticipated Period of Performance	January 7, 2024-January 8, 2025

### Section 3 – Contact and Questions/Requests for Clarification

**3.1** Bidders must carefully review this solicitation, the contract, risk management provisions, and all attachments for defects, questionable, or objectionable material. Following review, vendors may have questions to clarify or interpret the IFB in order to submit the best bid possible. To accommodate the questions and requests for clarifications, vendors shall submit any such question via email by the deadline reflected in Section 2. All questions and requests for clarifications must be directed by email to:

Candice Webster, Procurement Team Lead  
Telephone: 601-432-2154  
E-mail: [procurement@wfp.ms.gov](mailto:procurement@wfp.ms.gov)

**3.2** Vendors should enter "IFB RFx Number #3160006257 - Questions" as the subject for the email. Question submittals should include a reference to the applicable IFB section and be submitted in the format shown below:

	IFB Section, Page Number	Vendor Question/Request for Clarification
1.		

- 3.3** Official responses will be provided only for questions submitted as described above and only to clarify information already included in the IFB. The identity of the organization submitting the question(s) will not be revealed. All questions and answers will be published on the Mississippi Contract/Procurement Opportunity Search Portal website and the Agency's website as an amendment to the IFB by the date and time reflected in Section 2.
- 3.4** The Agency will not be bound by any verbal or written information that is not contained within this IFB unless formally noticed and issued by the contact person as an IFB amendment. Bidders are cautioned that any statements made by Agency personnel that materially change any portion of the bid document shall not be relied upon unless subsequently ratified by a formal written amendment to the bid document.
- 3.5** All vendor communications regarding this IFB must be directed to the Bid Coordinator. Unauthorized contact regarding the IFB with other employees of the Agency may result in the vendor being disqualified, and the vendor may also be suspended or disbarred from the State.
- 3.6** No Pre-Bid Conference, Tour, or Site Visit will be held for this IFB.
- 3.7 Acknowledgement of Amendments:** Should an amendment to the IFB be issued, it will be posted on the Mississippi Contract/Procurement Opportunity Search Portal website and the Agency's website in a manner that all bidders will be able to view. Further, bidders must acknowledge receipt of any amendment to the solicitation by signing and returning the amendment with the bid package, by identifying the amendment number and date in the space provided for this purpose on the bid form, or by letter. The acknowledgment should be received by the Agency by the time, date, and at the place specified for receipt of bids. It is the bidder's sole responsibility to monitor the websites for any updates or amendments to the IFB.
- 3.8** Bidder must provide a signed Acknowledgements of IFB Amendment(s), Questions and Answer document(s), and/or Summary of Pre-Bid Conference, Tour, or Site Visit, if any were issued/posted on the Mississippi Contract/Procurement Opportunity Search Portal website and the Agency's website.
- 3.9** The IFB is comprised of the base IFB document, any attachments, any amendments issued prior to the submission deadline, and any other documents released before contract award.

#### **Section 4 – Specifications**

The Agency is seeking to establish a term contract for a minimum of two (2) new but a maximum of three (3) new Crawler Tractors depending on availability of funds. The full specifications are herein described in **Attachment "G"**, captioned "Specifications", which is attached hereto and made a part hereof by reference. The specifications are from procurement RFX#3160006257 which was issued by the Agency and incorporated herein by reference.

- 4.1.1 Quality Assurance:** All equipment received as a result of this procurement shall be evaluated for quality assurance prior to the acceptance of responsible for each commodity. Commodities must be new and not in used condition.
- 4.1.2 Location of Work:** Equipment is to be delivered to the following location: Turcotte Shooting Range, 506 MS-43, Canton, MS 39046.
- 4.1.3** The State will not be responsible for equipment delivered to any other location except for the location listed above. The bidder agrees to begin delivery 30 days after the execution of the subsequent contract resulting from this bid.
- 4.1.4 Maintenance:** The Manufacturer, or dealer, must guarantee parts and service availability according to the following general guidelines: 1) Parts for normal maintenance and/or minor repairs, must be available same day or within 24 hours; 2) Major components such as engines, transmissions, hydraulic pumps and motor, etc., must be available within 72 hours; and 3) Large components such as cabs, ROPS, main frames, roller frames, etc., must be available within 2-3 weeks; 4) Service centers able to fully support product must be available within 100 miles of the machines' assigned location; 5) Field technician must be available and onsite within 24 hours.

## **Section 5 - Basis for Award**

- 5.1** All bids will be reviewed first to determine whether a vendor is responsive, responsible, and/or acceptable. Requirements are not assigned a point percentage and/or score, but are instead simply recorded as PASS or FAIL. Bids with errors that do not alter the substance of the bid can be accepted, and the Agency Chief Procurement Officer may allow the bidder to correct the problem prior to review as long as the irregularities are insignificant mistakes that can be waived or corrected without prejudice to other bidders.
- 5.2** The Agency has the right to waive minor defects or variations of a bid from the exact requirements of the specifications that do not affect the price, quality, quantity, delivery, or performance time of the services being procured. If insufficient information is submitted by a bidder with the bid for the Agency to properly evaluate the bid, the Agency has the right to require such additional information as it may deem necessary after the time set for receipt of bids, provided that the information requested does not change the price, quality, quantity, delivery, or performance time of the services being procured.
- 5.3** The contract will be awarded by written notice to the lowest and best responsive bidder in accordance with federal and state laws whose bid meets the requirements and criteria set forth in this Invitation for Bids within 30 days. A draft of the proposed contract is included in this IFB as **Attachment "F"**.

**5.4** The Agency intends to award one contract to provide the services described in this IFB to the lowest responsible and responsive bidder.

## **Section 6 – Duration**

The estimated period of performance of any contract resulting from this IFB is tentatively scheduled to begin on or about and to end on January 8, 2023 – January 7, 2024. This is a single year contract and there will be no renewals.

## **Section 7 – Bid Submission Requirements**

### **7.1 Submission Format**

#### **7.1.2 Bid Cover Sheet (Attachment A)**

**7.1.3 Bid Form (Attachment B)** - all pricing must be submitted on the bid form. Failure to complete and/or sign the bid form may result in bidder being determined nonresponsive.

**7.1.4 IFB Exception(s) Form (Attachment C)** - Bidder taking exception to any part or section of the solicitation shall indicate such exceptions on the table below. If no exceptions are taken, then the Bidder shall state in this section “No Exceptions Taken.”

#### **7.1.5 Certifications and Assurances (Attachment D)**

#### **7.1.6 Bid Submission Checklist (Attachment E)**

### **7.2 Submission Requirements**

**7.2.1** The original and two (2) copies of the bid form, three (3) copies total, shall be signed and submitted in a sealed envelope or package to 1505 Eastover Drive, Jackson, MS 39211, no later than the time and date specified for receipt of bids. Timely submission of the bid form is the responsibility of the bidder. Bids received after the specified time shall be rejected and unopened. The envelope or package shall be marked with the bid opening date and time, and the number of the invitation for bid. The time and date of receipt shall be indicated on the envelope or package by the Agency. Each page of the **Bid Form (Attachment B)** and all attachments shall be identified with the name of the bidder. Failure to submit a bid on the bid form provided shall be considered just cause for rejection of the bid. Modifications or additions to any portion of the procurement document may be cause for rejection of the bid. The Agency reserves the right to decide, on a case-by-case basis, whether to reject a bid with modifications or additions as non-responsive. As a precondition to bid acceptance, the Agency may request the bidder to withdraw or modify those portions of the bid deemed non-responsive that do not affect quality, quantity, price, or delivery of the service. Sealed bids will be considered if they are delivered electronically through the MAGIC system by the time and date set for receipt of bids.

- 7.2.2** Sealed Competitive Bids may be submitted electronically through the State of Mississippi's MAGIC system at the following websites:

<https://portal.magic.ms.gov>

[https://www.ms.gov/dfa/contract\\_bid\\_search/Contract](https://www.ms.gov/dfa/contract_bid_search/Contract)

Please use the websites above and search for Rfx No. 3160006257

Vendors must be registered in MAGIC to be able to submit bids electronically. A guide has been included with this IFB for assistance.

- 7.2.3** The sealed envelope or package shall be marked with the bid opening date and time, and the number of the invitation for bids 2:00 PM CST, November 21, 2023; Rfx No. 3160006257. Bids are subject to rejection unless submitted with the information included on the outside the sealed bid envelope or package.

Sealed bids should be mailed or hand-delivered to and labeled as follows:

IFB for Crawler Tractors

Rfx No. 3160006257

Opening Date: 02:00 PM CST, November 21, 2023

Mississippi Department of Wildlife, Fisheries, and Parks

Attention: Candice Webster, Procurement Team Lead

1505 Eastover Drive

Jackson, MS 39211

SEALED BID – DO NOT OPEN

- 7.2.4** All bid packages must be received by the Agency no later than 2:00 PM CST, November 21, 2023. Bids submitted via facsimile (fax) machine **will not** be accepted. It is suggested that if a bid is mailed to the Agency, it should be posted in certified mail with a return receipt requested. The Agency will not be responsible for mail delays or lost mail. All risk of late arrival due to unanticipated delay – whether delivered by hand, U.S. Postal Service, courier or other delivery service or method – is entirely on the vendor. All vendors are urged to take the possibility of delay into account when submitting a bid.
- 7.2.5** Timely submission of the bid package is the responsibility of the bidder. Bids received after the specified time will be rejected and maintained unopened in the procurement file. A bid received at the place designated in the solicitation for receipt of bids after the exact time specified for receipt will not be considered unless it has been determined by the Agency that the late receipt was due solely to mishandling by the Agency after receipt at the specified address.
- 7.2.6** The time and date of receipt will be indicated on the sealed bid envelope or package by Agency staff. The only acceptable evidence to establish the time of receipt at the office

identified for bid opening is the time and date stamp of that office on the bid wrapper or other documentary evidence of receipt used by that office.

Each page of the bid form and all attachments shall be identified with the name of the bidder.

Failure to submit a bid on the bid form provided will be considered cause for rejection of the bid. **Modifications or additions to any portion of the bid document may be cause for rejection of the bid.** The Agency reserves the right to decide, on a case-by-case basis, whether to reject a bid with modifications or additions as non-responsive.

- 7.2.7** Bidders taking exception to any part or section of the solicitation shall indicate such exceptions on the IFB Exception(s) form, **Attachment C**. Failure to indicate any exception will be interpreted as the bidder's intent to comply fully with the requirements as written. Conditional or qualified bids, unless specifically allowed, shall be subject to rejection in whole or in part. The bid must contain a high degree of acceptance of contract terms and conditions listed in **Attachment D** of this IFB.
- 7.2.8** A bid response that includes terms and conditions that do not conform to the terms and conditions in the bid document is subject to rejection as non-responsive. The Agency reserves the right to permit the bidder to withdraw nonconforming terms and conditions from its bid response prior to a determination by the Agency of non-responsiveness based on the submission of nonconforming terms and conditions.
- 7.2.9** As a precondition to bid acceptance, the Agency may request the bidder to withdraw or modify those portions of the bid deemed non-responsive that do not affect quality, quantity, price, or delivery of the service.
- 7.2.10** Any bidder claiming that its response contains information exempt from the Mississippi Public Records Act (Miss. Code Ann. §§ 25-61-1 *et seq.* and 79-23-1), shall segregate and mark the information as confidential and provide the specific statutory authority for the exemption.

## **Section 8 – Bidder Certification**

The bidder agrees that submission of a signed bid form is certification that the bidder will accept an award made to it as a result of the submission.

## **Section 9 – Debarment**

By submitting a bid, the bidder certifies that it is not currently debarred from submitting bids for contracts issued by any political subdivision or Agency of the State of Mississippi and that it is not an agent of a person or entity that is currently debarred from submitting bids for contracts issued by any political subdivision or Agency of the State of Mississippi.

## **Section 10 – Registration with Mississippi Secretary of State**

By submitting a bid, the bidder certifies that it is registered to do business in the State of Mississippi as prescribed by Mississippi law and the Mississippi Secretary of State or, if not already registered, that it will do so within seven (7) business days of being notified by the Agency that it has been selected for contract award.

## **Section 11 – Bid Opening**

Bid opening will be open to the public; however, this will include opening, reading, and listing the name of each bidder and the bid price of each bid only. No discussions will be entered into with any bidder as to the quality or provisions of the specifications and no award will be made either stated or implied at the bid opening.

## **Section 12 – Award Notification**

All participating vendors will be notified of the agency's intent to award a contract. In addition, the AGENCY will identify the selected vendor. Notice of award is also made available to the public.

## **Section 13 – Procurement Methodology**

### **13.1 Restrictions on Communications with Agency and Agency Staff**

At no time shall any bidder or its personnel contact, or attempt to contact, any Agency staff regarding this IFB except the contact person as set forth and in the manner prescribed in Section 3.

### **13.2 Bidder Investigations**

Before submitting a bid, each bidder shall make all investigations and examinations necessary to ascertain all conditions and requirements affecting the full performance of the contract and to verify any representations made by the Agency upon which the bidder will rely. If the bidder receives an award as a result of its bid submission, failure to have made such investigations and examinations will in no way relieve the bidder from its obligation to comply in every detail with all provisions and requirements of the contract documents, nor will a plea of ignorance of such conditions and requirements be accepted as a basis for any claim whatsoever for additional compensation.

### **13.3 Expenses Incurred in Preparing Bid**

The Agency accepts no responsibility for any expense incurred by any bidder in the preparation and presentation of a bid. Such expenses shall be borne exclusively by the bidder.

### **13.4 Rejection of Bids**

A bid response that includes terms and conditions that do not conform to the terms and conditions in the IFB document is subject to rejection as non-responsive. Further, submission of a bid form that is not complete and/or signed is subject to rejection as non-responsive. The Agency reserves the



right to permit the bidder to withdraw nonconforming terms and conditions from its bid response prior to a determination by the Agency staff of non-responsiveness based on the submission of nonconforming terms and conditions. Furthermore, if a bidder's price is substantially higher than those of other bidders, meaning those in excess of a twenty-five percent (25%) differential, the bidder's price will be deemed non-responsive.

### **13.5 Withdrawal of Bids**

If the price bid is substantially lower than those of other bidders, a mistake may have been made. A bidder may withdraw its bid from consideration if certain conditions are met:

- (1) The bid is submitted in good faith;
- (2) The price bid is substantially lower than those of other bidders because of a mistake;
- (3) The mistake is a clerical error, not an error of judgment; and,
- (4) Objective evidence drawn from original work papers, documents, and other materials used in the preparation of the bid demonstrates clearly that the mistake was an unintentional error in arithmetic or an unintentional omission of a quantity of labor or material.

To withdraw a bid that includes a clerical error after bid opening, the bidder must give notice in writing to the Agency of claim of right to withdraw a bid. Within two (2) business days after the bid opening, the bidder requesting withdrawal must provide to the Agency all original work papers, documents, and other materials used in the preparation of the bid.

A bidder may also withdraw a bid, prior to the time set for the opening of bids, by simply making a request in writing to the Agency. No explanation is required.

No bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor to or perform any subcontract or other work for the person to whom the contract is awarded, or otherwise benefit from the contract. No partial withdrawals of a bid are permitted after the time and date set for the bid opening; only complete withdrawals are permitted.

### **13.6 Post-Award Vendor Debriefing**

A bidder, successful or unsuccessful, may request a post-award vendor debriefing, in writing, by U.S. mail or electronic submission. The written request must be received by the Candice Webster, Procurement Team Lead within three (3) business days of notification of the contract award. A post-award vendor debriefing is a meeting and not a hearing; therefore, legal representation is not required. A debriefing typically occurs within three (3) business days of receipt of the request. If a bidder prefers to have legal representation present, the bidder must notify Candice Webster, Procurement Team Lead in writing and identify its attorney by name, address, and telephone number. The Agency will schedule and/or suspend and reschedule the meeting at a time when a Representative of the Office of the Mississippi Attorney General can be present.

For additional information regarding Post-Award Vendor Debriefing, as well as the information that may be provided and excluded, please see Section 7-113 through 7-113.07, Post-Award Vendor Debriefing, of the *PPRB OPSCR Rules and Regulations* as updated and replaced by PPRB.

### **13.7 Protests**

Any actual or prospective bidder who is aggrieved in connection with this solicitation or the outcome of this IFB may file a protest with Candice Webster, Procurement Team Lead. The protest shall be submitted within seven (7) calendar days of notification of the contract award or on or before 05:00 PM CST, December 4, 2023 in writing after such aggrieved person or entity knows or should have known of the facts giving rise thereto. The written protest letter shall contain an explanation of the specific basis for the protest. All protests must be in writing, dated, signed by the bidder or an individual authorized to sign contracts on behalf of the protesting bidder, and contain a statement of the reason(s) for protest, citing the law(s), rule(s) and regulation(s) or procedure(s) on which the protest is based. The protesting bidder must provide facts and evidence to support the protest. A protest is considered filed when received by Candice Webster, Procurement Team Lead via either U.S. mail, postage prepaid, or by personal delivery. Protests filed after 5:00 PM CST, December 4, 2023 will not be considered.

### **Section 14 – Agency Website**

This IFB, questions and answers concerning this IFB, and the Notice of Intent To Award will be posted on the Agency website at <https://www.Agency.com/administration/bid-opportunities-20/> and on the Mississippi Contract/Procurement Opportunity Search Portal website.

### **Section 15 – Attachments**

The attachments to this IFB are made a part of this IFB as if copied herein in words and figures.



MS Department of Wildlife, Fisheries, and Parks  
1505 Eastover Drive, Jackson, MS 39211-6374

**BID COVER SHEET  
Attachment A**

**RFX #3160006257 – UP TO THREE (3) CRAWLER TRACTORS**

The AGENCY is seeking to establish a contract for up to three (3) Crawler Tractors. Bids are to be submitted online in MAGIC or by paper submission, on or before November 21, 2023 at 2:00 PM CT.

**PLEASE MARK YOUR ENVELOPE:**

**RFX #3160006257**

**Crawler Tractors**

**Opening Date:**

**November 21, 2023, 2:00 PM**

**Mississippi Department of Wildlife, Fisheries, and Parks**

**ATTN: Candice Webster, Procurement Team Lead**

**1505 Eastover Drive**

**Jackson, MS 39211**

**SEALED BID – DO NOT OPEN**

Company Name: \_\_\_\_\_

Minority Status    ☐ Applicable    ☐ Not Applicable

If Applicable, check at least one (1): ☐ Minority Enterprise    ☐ Women Business

Quoted by: \_\_\_\_\_

Signature: \_\_\_\_\_

Address: \_\_\_\_\_

(Street/P.O. Box)

(City)

(State)

(Zip Code)

Company Representative: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Acknowledgement of Amendments: (of applicable) Signature: \_\_\_\_\_

FEI/FIN # (if company, corporation, or partnership):	
SS# (if individual):	
Supplier Number (If known)	



MS Department of Wildlife, Fisheries, and Parks  
1505 Eastover Drive, Jackson, MS 39211-6374

**BID FORM**  
**ATTACHMENT B**

**RFX #3160006257 Up to Three (3) Crawler Tractors**

Company	Company Representative	Telephone

The pricing quoted must be inclusive of, but not limited to the following:

- All required equipment and materials
- All required insurance
- All required overhead
- All required profit
- All required transportation
- All required labor
- All required business and professional licenses, permits, fees, etc. (if any)
- All management fees (if any)
- Any and all other costs associated not mentioned

**The total compensation for each Crawler Tractor is \$\_\_\_\_\_.**

By signing below, the Company Representative certifies that he/she has authority to bind the company, and further acknowledges on behalf of the company:

1. That he/she has thoroughly read and understands this Invitation for Bids, RFX #3160006257, and the attachments herein;
2. That the company meets all requirements and acknowledges all certifications contained in this Invitation for Bids, RFX #3160006257, and the attachments herein;
3. That the company agrees to all provisions of this Invitation for Bids, RFX #3160006257 and the attachments herein;
4. That the company will perform, without delay, the services required at the prices quoted in this **Attachment B**; and
5. That, to the best of its knowledge and belief, the cost or pricing data submitted is accurate, complete, and current as of the submission date.
6. That the company has, or will secure, at its own expense, applicable personnel who shall be qualified

to perform the duties required to be performed under this Invitation for Bids.

**Printed Name/Title:** \_\_\_\_\_

**Signature/Date:** \_\_\_\_\_

**Rfx No. 3160006257****Invitation for Bid for Up to Three (3) Crawler Tractors IFB  
Exception(s)**

Bidder taking exception to any part or section of the solicitation shall indicate such exceptions on the table below. If no exceptions are taken, then the Bidder shall state in this section "No Exceptions Taken." Failure to indicate any exception will be interpreted as the Bidder's intent to comply fully with the requirements as written. Conditional or qualified bids, unless specifically allowed, shall be subject to rejection in whole or in part.

<b>Procurement Section and Page Number</b>	<b>Original Language</b>	<b>Requested Change/Exception</b>	<b>Agency Decision</b>
1.			
2.			
3.			
4.			
5.			

No Exception Taken	

Signature

Date



I/We make the following certifications and assurances as a required element of the bid to which it is attached, of the understanding that the truthfulness of the facts affirmed here and the continued compliance with these requirements are conditions precedent to the award or continuation of the related contract(s) by circling the applicable word or words in each paragraph below:

**1. REPRESENTATION REGARDING CONTINGENT FEES**

Contractor represents that it **has/has not** retained a person to solicit or secure a state contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except as disclosed in Contractor's bid.

**2. REPRESENTATION REGARDING GRATUITIES**

The bidder or Contractor represents that it **has/has not** violated, is not violating, and promises that it will not violate the prohibition against gratuities set forth in Section 9.105 (Gratuities) of the Mississippi Procurement Manual.

**3. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION**

The bidder certifies that the prices submitted in response to the solicitation **have/have not** been arrived at independently and without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to those prices, the intention to submit a bid, or the methods or factors used to calculate price.

**4. PROSPECTIVE CONTRACTOR'S REPRESENTATION REGARDING CONTINGENT FEES**

The prospective Contractor represents as a part of such Contractor's bid that such Contractor **has/has not** retained any person or Agency on a percentage, commission, or other contingent arrangement to secure this contract.

Name/Title: \_\_\_\_\_

Signature/Date: \_\_\_\_\_

**Note:** Please be sure to **circle the applicable word or words** provided above. Failure to circle the applicable word or words and/or to sign the bid form may result in the bid being rejected as nonresponsive. **Modifications or additions to any portion of this bid document may be cause for rejection of the bid.**



MS Department of Wildlife, Fisheries, and Parks  
1505 Eastover Drive, Jackson, MS 39211-6374

**BID SUBMISSION CHECKLIST**  
**ATTACHMENT E**

BID SUBMISSION CHECKLIST	
	<i>(Please check all completed items)</i>
	Completed and signed Bid Cover Sheet ( <b>Attachment A</b> )
	Completed Bid Form <b>Attachment B)</b>
	IFB Exception Form ( <b>Attachment C)</b>
	Completed and signed Certifications and Assurances ( <b>Attachment D)</b>
	Signed Acknowledgement of Amendment(s), if applicable
	Bid Submission Checklist ( <b>Attachment E)</b>

This list is not all inclusive. Make sure to read and follow instructions in this solicitation. It is the responsibility of the bidder to submit all requested documents with bid. **An incomplete Bid will be subject to rejection.**



**Attachment F**  
**CONTRACT RESULTING FROM THIS IFB**

**CONTRACT BETWEEN MISSISSIPPI DEPARTMENT WILDLIFE, FISHERIES and PARKS**  
**AND**  
**(AWARDED VENDOR)**

This CONTRACTOR is entered into by and between the Mississippi Department of Wildlife, Fisheries & Parks, herein referred to as "AGENCY" and (AWARDED VENDOR).

This CONTRACT is made for the procurement of a minimum of two (2) but up to a maximum of three (3) Crawler Tractors (description will be updated after award) for the period DATE- DATE. The total contract amount not to be exceeded is \_\_\_\_\_.

**BOTH PARTIES AGREE THAT:**

(AWARDED VENDOR) shall not assign or otherwise transfer the obligations incurred on its part pursuant to the terms of this Contract without the prior written consent of the AGENCY. Any attempted assignment or transfer of its obligations without such consent shall wholly void and shall not relieve (AWARDED VENDOR) of its obligation to AGENCY under this Contract.

(AWARDED VENDOR) shall comply with all applicable laws, rules, regulations, policies and procedures of the State of Mississippi or any Agency thereof and any local governments or political subdivisions that may affect the procurement of commodities under this Contract.

(AWARDED VENDOR) understands that AGENCY is an equal opportunity employer and therefore maintains a policy which prohibits unlawful discrimination based on race, color, creed, sex, age, national origin, disability or any other unlawful by federal or state laws. All such discrimination is unlawful and (AWARDED VENDOR) agrees during the term of this Contract that (AWARDED VENDOR) will strictly adhere to this policy.

(AWARDED VENDOR) agrees to begin delivering within 30 days of the execution of this Contract. Failure to do so may result in the cancellation of award. If cancellation of award occurs, a new award will be made to the next lowest bidder meeting the required specifications.

If any clause or provision of this Contract is held to be illegal or void by a court of law the validity of the remaining portions of the Contract shall not be affected, and the rights and obligations of the parties shall be enforced as if the Contract did not contain such illegal or void clauses.

Either party may cancel this Contract at any time with 30 days written notice. Should this occur, payment for equipment satisfactorily received will be adjusted accordingly.

The covenants and conditions herein contained shall apply to and bind the successors and legal representatives of the parties hereto.

IN WITNESS WHEREOF, this contract has been entered into and executed by the parties hereto in duplicate originals.

This \_\_\_\_\_ day of \_\_\_\_\_, 2023.

Mississippi Department of Wildlife, Fisheries, and Parks

By: \_\_\_\_\_  
Lynn Posey, Executive Director

(AWARDED VENDOR)

By: \_\_\_\_\_  
(AWARDED VENDOR)



**“SPECIFICATIONS”**  
**ENVIRONMENTAL CAB CRAWLER TRACTOR WITH BLADE,**  
**MINIMUM 104 NET HP, LGP (Low Ground Pressure) CLASS**

**SCOPE**

The intent of this specification is to define a crawler tractor for use in a severe forestry environment. The primary use being wildfire suppression and fuel mitigation projects in extremely heavy forest fuels. The tractor must have the ability to perform continuous drawbar work over long periods of time in extremely adverse conditions. The tractor must be able to pull a variety of rear attachments, or bulldoze firelanes without overheating or otherwise malfunctioning. Product support must be readily available throughout the state of Mississippi. The Manufacturer, or dealer, must guarantee parts and service availability according to the following general guidelines: 1) Parts for normal maintenance and/or minor repairs, must be available the same day or within 24 hours; 2) Major components such as engines, transmissions, hydraulic pumps and motors, etc., must be available within 72 hours; and 3) Large components such as cabs, ROPS, main frames, roller frames, etc., must be available within 2-3 weeks; 4) Service centers able to fully support product must be available within 100 miles of machine's assigned location; 5) Field technician must be available and onsite within 24 hours. The unit must be new, unused and be prepared for service when delivered to the specified location. Vendor must provide a test unit of the exact model bid, with full forestry fire package, and demonstrate that the unit meets or exceeds the minimum requirements prior to bid award.

**1. PERFORMANCE**

- A. Top speed at full throttle on cleared; level ground must be a minimum of 6.0 MPH.
- B. Drawbar/sprocket pull minimum 9000lbs at 3.0 mph
- C. Machines must be able to perform draw bar operation during the hottest days of the year **without** overheating.
- D. Machines **MUST** give proper audible and visual warning due to any condition that would normally cause an engine or transmission de-rate, however any machine equipped to de-rate the transmission due to low fluid levels or high temperature, shall have such systems deactivated prior to delivery.

**2. ENGINE**

- A. Engine must be a current production crawler tractor engine offered by the manufacturer. Prototype or experimental engines are not acceptable.
- B. Engine must be diesel fueled, turbocharged, four-stroke cycle, liquid cooled minimum 104 net HP.
- C. Displacement must be a minimum of 4.4 liters.
- D. Fan may be blower or suction type. Finger guard required.
- E. Radiator must be suitable for forestry application. Fin spacing shall be no closer than ten (10) fins per inch. Bar and plate construction. Sand screens are not acceptable. Maximum

cooling capacity shall be provided. Cooling system shall be filled with coolant that provides freeze protection to -30 degrees F and maximum corrosion protection.

- F. Air cleaner shall be dry type with safety element and a turbine type pre-cleaner. A perforated guard that serves as prescreener shall protect intake cover. A filter restriction indicator shall be provided in the operator's station.
- G. The turbocharger in the exhaust system shall function as spark arrestor. Exhaust must be muffled and be routed to an overhead outlet inboard mounted on one limb riser. Flexible pipe sections must be stainless steel. Exhaust system shall be weatherproof and protect the engine from rainfall during idle periods. The top of the muffler must be protected, in such a manner, so as to keep water and other contaminants out of the muffler.
- H. A fuel-water separator with a spin-on replaceable element must be provided.
- I. Primary fuel filter must be vertically mounted.
- J. An electric engine hour meter shall be provided. It shall be activated when the engine is running.
- K. All coolant hoses shall be protected by a fire and heat protective covering.
- L. Engine shutoff shall be controlled by an electric solenoid valve. The wiring to the solenoid shall be protected by a fire sleeve.
- M. The cold weather starting aid shall be an electric engine block (coolant) heater. Ether start aid not allowed.
- N. Tractor must be equipped with a foot-operated decelerator.
- O. Engine must be equipped with a spin-on, vertical mount oil filter.
- P. Engine hood must be sealed around the exhaust and air intake pipes/ mounts so materials (pine needles, leaves, etc.) will not fall into engine compartment.
- Q. Emissions Control System must meet the following requirements:
  - 1. Machine must be fully certified to meet EPA Final Tier IV requirements.
  - 2. As long as the operator allows the machine to regenerate when required, the machine must be capable of "on the go" regeneration if regeneration is a part of the emission control process. The regeneration must not de-rate the capabilities of the machine in both passive and active regeneration.

### **3. DRIVETRAIN**

- A. Transmission shall be hydrostatic drive. **Direct drive/Torque converter not acceptable.** Transmission must be capable of full speed direction changes.
- B. Infinitely variable ratios must be available in the hydrostatic drive system.
- C. Hydrostatic transmission must be dual path design. It must feature "load sensing," "anti-stall," and "counter-rotation." The tractor must be capable of "power turns." Turning radius must be consistent, even when travel speed is varied.
- D. Steering must be single lever, joystick controlled. The joystick must control forward and reverse motion, must control left and right steering & ground speed. It must also control counter-rotation. Speed control must be intergraded into the joystick.
- E. The hydrostatic transmission must be plumbed with remote diagnostic test ports, conveniently located so as to permit diagnostic procedures without removal of any significant components.
- F. A vertical mounted transmission oil filter with a spin-on replaceable element shall be provided.

### **4. UNDERCARRIAGE**

- A. Track gauge will be no more than 70".
- B. Tractors shall have center mounted track shoes, single grouser, 26" width. Maximum width, across the tracks, shall be no more than 95".
- C. Length of track on ground shall be minimum of 90". Each track shall have a minimum of seven (7) track rollers.
- D. Ground pressure of the base canopy machine (without protection package, front winch, plow, etc) shall not exceed 5 psi.
- E. Track adjusters shall be hydraulic with covers over grease points to prevent inadvertent tightening. Recoil springs shall be covered. Recoil springs shall be heavy-duty versions, suitable for the maximum operating weight of the tractor and the operating conditions. Recoil system shall be equipped with over-pressure protection (relief valves in hydraulic track adjusters).
- F. A grease gun is to be provided.
- G. Each track shall have a minimum of one (1) carrier roller.
- H. Track chain shall be sealed and lubricated.
- I. Rollers & idlers shall be provided with lifetime lubrication.
- J. The roller frame suspension shall be rigid.
- K. Tracks shall have full length rock guards.
- L. All undercarriage components, including roller frames, idlers, rails, sprockets, rollers, and shoes shall be capable of continuous use per the defined application.
- M. Eight (8) evenly spaced track shoes, on each side, shall have key-slots cut into them for self-retrieval. The key-slots must be sized for a ½" chain.
- N. Tractor shall come with the most heavy-duty OEM undercarriage components available, and shall be warrantied.

## **5. CHASSIS**

- A. Radiator grille must be rated for extreme service in forestry application. A quick released, hinged, heavy duty extreme-service grille must be provided.
- B. Engine side shields shall be hinged and/or quick release mounted. The engine compartment must be instantly accessible (both sides) without the use of tools. The hood and engine compartment side shields shall be perforated to the maximum extent offered by the manufacturer.
- C. A fuel tank shutoff valve shall be located within reach of the seated operator and must be operable without the use of tools. A steel fuel tank with a 50-gallon capacity, minimum shall be provided.
- D. A fuel tank drain must be provided and protected from brush damage. It must be reasonably accessible with the use of tools, but without having to remove any major components.
- E. All primary fuel lines must be metal or metal reinforced hoses. Hose connections shall be threaded with SAE or flat face o-ring connectors.
- F. An electric fuel-priming pump must be provided.
- G. Tractor must be equipped with a full length, extreme service bottom guard. Bottom guard must protect all components on the bottom of the tractor and have a thickness of no less than 12 mm. The bottom guard must include a bolt-on access hatch located at the lowest part of the guard for flushing out debris.
- H. Three (3) screw pin type shackles with a minimum Working Load Limit (WLL) of 25, 000 lbs. must be provided.
- I. One (1) Front and two (2) rear tow points, capable of supporting the full weight of the

fully equipped machine, must be provided to accept shackles.

- J. Tractor must be equipped with a vandalism protection group. Fill points shall be lockable. Key alike padlocks shall be provided.
- K. Tie down rings (2) shall be furnished on each roller frame. Rings shall be sized to meet federal transportation safety regulations and be located to minimize exposure to damage.
- L. Ground clearance shall be a minimum of 13" when fully equipped with or without fire plow.
- M. Crawler must be equipped with a tank guard that protects both the fuel and hydraulic tank. It must be bolt on mount providing service access as needed.
- N. Unit shall be equipped with outside, top opening, tool box (or boxes) located on the rear of the cab, above the winch or Fireplow. It shall be the width of the cab, have a sloped top and not interfere with the operation of the winch or the remote hydraulic connections. Width and depth of the tool box (or boxes) shall be great enough to allow hauling a drip torch, four (4) 20 foot ½ inch chains and a 10-pound fire extinguisher.
- O. All compartments must be sealed in order to keep as much debris and dirt out of them.
- P. All outside latches will be protected by ½" minimum angle iron positioned on front facing side of the latch or pin.

## **6. HYDRAULIC SYSTEM**

- A. Hydraulic pump shall be a variable flow or gear type with a minimum flow rate of 19 gpm. System pressure shall be 2800 - 3000 psi.
- B. Blade controls shall be on a single "T-bar" control (lift, angle and tilt). Blade lift valve section shall include a float position.
- C. An auxiliary hydraulic circuit shall be provided for the rear-mounted fireplow. A separate lever and valve section shall be included. The circuit shall be equipped with a float position (lever forward) and one adjustable relief valve. The circuit shall connect to the plow via 1/2" breakaway couplers. The couplers shall be located as close as possible to the center rear of tractor.
- D. All hydraulic tubing shall be prepainted or treated to prevent corrosion. It shall be securely mounted and protected to prevent damage and chafing.
- E. Hydraulic hoses in the engine compartment or belly, within 12" of the bottom guard, must be covered with fire resistant sheathing.
- F. Lift and angle cylinders must have steel guards.
- G. All hoses routed to the blade, and all exposed hydraulic fittings must be adequately guarded for the intended application. If the option for the blade mounted winch is taken, the hydraulic hoses will run to the front of the crawler.
- H. Blade cylinder rods are to be heat treated, chrome plated, ground and polished.
- I. Steel hydraulic tank will be provided.
- J. In the event of a broken hydraulic hose to any of the cylinders, oil must not leak from the broken hose as long as the control for that circuit remains in the neutral or hold position.
- K. In the event of a broken hydraulic hose to any of the cylinders the machine must be able to travel a distance of 1 mile under its own power.

## **7. DOZER BLADE**

- A. Dozer blade shall be mounted on an inside mounted, all hydraulic C-frame. Power lift, angle and tilt functions shall be provided. C-frame shall be "heavy duty" rated; suitable for the intended application.

- B. Dozer blade shall be a maximum width of 105".
- C. Moldboard shall be equipped with bolt-on replaceable end bits and cutting edges.
- D. Dozer blade shall be equipped with a full width brush guard with angled corners, 15-18" high.

## **8. ROPS CANOPY & OPERATOR PROTECTION**

This item will be the manufacturer's standard, full featured component of the crawler, which will include, but not limited to, the features described in the following:

### **A. Enclosed Cab**

The operator's station shall be a fully enclosed, sound suppressed, ROPS cab. It shall be heated, air conditioned and pressurized. The Roll Over Protective Structure (ROPS) and Falling Object Protective Structure (FOPS) shall meet the requirements of the latest issues OSHA 1910.266 and of SAE J1040 and J231, and be fully certified. Front and rear washer/wipers.

### **B. Windows**

The windows will be made of safety material, which is rated, for extreme service for forestry application. Windows will have no more than 30% tint. It shall be heat resistant to no less than 480 degrees F. The window material shall be mounted in such a manner that the window will remain in place in the event of softening or melting of the window molding during a burnover occurrence. Protective screens meeting the requirements of SAE J1084 shall protect all windows. The screens shall be painted a non-glare color. Side window screens shall be 1/4" x 1-3/4" woven wire mesh. All remaining screens shall be 1/4" x 1-3/4" woven wire mesh or the equivalent cut plate. Each end of each strand of woven wire mesh shall be welded to the frame. Side, door, and rear screens are to be hinged to facilitate window cleaning. Front screen shall not be hinged but removable. Knobs for securing the window screens shall be adequately guarded and retained on the screen frame when the screen is opened. **ALL** screens are to be quick released, inside or outside operated, for an emergency exit.

### **C. Operator Access**

The operator's compartment shall have left side and right-side access doors. Operator compartment access must meet the requirements of SAE J1084. The doors of the operator's compartment shall be lockable to prevent unauthorized entry and operation of the machine.

### **D. Seat and Seat Belt**

The operator's seat shall be a deluxe, full suspension seat with cloth cover. The seat belt shall be three inches (3") wide and retractable. The seat belt shall meet the requirements of SAE J386.

### **E. Environmental Cab Cooling, Heating and Pressurizing System**

This cab will be the manufacturer's standard production cab with all the factory standard features. The heating and cooling modes will have the following minimum capabilities:

The operator's cab shall be cooled with an air conditioning system capable of 9,500 BTU/hr. The air conditioning system shall be R-134a compliant. The condensing unit shall be

mounted on the rear of the cab and be equipped with maximum protection against damage from trees, tree limbs and brush.

Condenser guard must be a minimum of 1/4" thickness, and provide easy access for servicing and cleaning unit without removal of the complete guard.

The pressurization system shall deliver air to the operator's compartment that has been filtered through a spark-arresting screen, a high efficiency particulate element (HEPA) and through an activated carbon element. The particulate media shall have an efficiency rating of 93 DOP at 0.5 micron. The media material shall be fiberglass. The activated carbon element(s) shall have an "Activity Rating" of 60, minimum. Any externally mounted filters shall be protected from brush damage. The pressurizer fan shall be rated at 400 CFM, minimum. Must provide six (6) additional HEPA filters and six (6) additional carbon filters per tractor.

The heater/defroster shall have a minimum capacity of 18,000 Btu/hr. The heating/cooling/pressurizing system shall conform to the requirements of SAE J1503/J1535D. An independent defroster fan shall be provided to defog the windows at any time, whether the system is being used for cooling or heating.

**F. Limb risers**

Limb risers shall be of the point-to-point design and shall be constructed of square tubing not less than 3" x 3" x 1/4". One limb riser shall incorporate an inboard mounted, weatherproof exhaust. The opposite limb riser shall incorporate an inboard mounted antenna mounting plate.

**9. ELECTRICAL SYSTEM**

- A. Tractors with 12-volt electrical systems must be supplied with dual batteries (2, 12-volt batteries wired in parallel). Tractors with 24-volt systems must be supplied with two 12-volt batteries wired in series. Batteries shall be low maintenance design with a minimum of 190-minute reserve capacity and at least 900 CCA each.
- B. A manual master electrical disconnect switch shall be provided.
- C. Tractors shall be equipped with a quick connect jump port, and 25', 0-gauge, jumper cables with quick connect on one end.
- D. The alternator shall have a nominal capacity of at least 100 amps.
- E. Tractor shall be equipped with a minimum of eight (8) work lights, paired as follows: One pair shall be mounted overhead, under the limb risers, facing forward. One pair shall be cab mounted at the most forward and widest portion of the cab roof. One pair shall be mounted inside the rear screen, facing rearward. One pair shall be mounted on the side of the cab facing outward, to provide light around the backside corners of the tractor. Each pair of lights shall be switched on an independent circuit, using clearly labeled switches, minimum of four (4) switches/circuits. Each circuit shall be protected by an independent, self-resetting circuit breaker. Lights shall be LED's, must be free from Radio Frequency Interference (RFI), and all shall be adequately protected from brush and tree contact and damage.
- F. A 12-volt, 30-amp power port must be available in the operator compartment.
- G. The starting system can be either direct, electric or be keyless and be capable of accepting a security code.
- H. An electronic monitoring system shall be provided to monitor all internal operating systems. It shall include audible and/or visual alarms for the charging system, hydraulic and



transmission filter restriction, engine coolant temperature, engine oil pressure, and air cleaner restriction. Gauges shall be provided for engine oil pressure and engine coolant temperature. A fuel level gauge shall be provided.

- I. An engine tachometer, suitable for diagnostic purposes, shall be provided.
- J. All critical electrical wiring and electronic sensors in the belly pan and engine area necessary for continued dozer operation shall be covered with fire sleeve.
- K. The tractor must come equipped with a GPS monitoring system that can be remotely accessed by computer to show location and critical operating conditions/parameters. This service must be accessible by Mississippi Department of Wildlife, Fisheries, and Parks, and remain free for the first five (5) years of service. The amount per year after the free period must be stated in the bid. The system must function nationally.

## **10. WEIGHTS AND DIMENSIONS**

- A. Operating weight of the tractor with the protection package, plow, winch, etc., shall be a maximum of 27,500 pounds.
- B. Overall machine height, including grouser height, shall be no more than 114".

## **11. SAFETY ITEMS**

- A. The tractor must be equipped with a self-adjusting back-up alarm.
- B. The tractor must be equipped with a warning horn.
- C. The service braking, secondary stopping and parking brake systems must meet the requirements of the latest issue of ISO 10265. Hydrostatic drive system must provide dynamic braking. Parking brake must be wet disk.
- D. The tractor shall be equipped with self-cleaning, anti-skid surfaces and hand grips as needed for safely mounting and dismounting the tractor and for all maintenance operations normally performed weekly. Grab handles for mounting and dismounting shall be provided at each rear corner of the tractor.
- E. The tractor must be equipped with a convex mirror, mounted inside the operator's compartment. It must have a 26 square inch viewing area, minimum.
- F. At least one floorplate in the operator's compartment shall be quick release mounted for instant access without the use of tools for fire suppression in the belly pan. Minimum size of 10" x 10".
- G. The tractor shall be equipped with one (1) five pound, ABC dry chemical fire extinguisher.
- H. The tractor shall be equipped with provisions to prevent unauthorized starting or movement of the machine.
- I. The tractor must conform to the latest issue of SAE J1212, Fire Prevention on Forestry Equipment.
- J. Safety signs shall meet the requirements of the latest issue of SAE J115.
- K. Water system for fire suppression: Tractor shall be equipped with a water system for the suppression of belly pan and brush fires. There will be separate lines run to belly pan and a hand held hose to be controlled by a 3-way valve. The system shall include a minimum of fifteen (15) gallon water capacity stainless steel tank, pre-mix foam capability, an electric pump capable of 5 gpm at 40-45 psi and a hand held brass adjustable nozzle with fifteen (15) feet of ½" recoil hose. The suppression system should be located either at the rear or in the cab of tractor.
- L. Tractor must have a belly pan suppression system with permanently mounted nozzles in the

transmission/pump compartments. The system shall be capable of delivering water/foam to the transmission/pump compartments.

## **12. WINCH TRACTOR**

- A. Dependent upon funding, up to three (3) tractors shall have a rear mounted winch with no plow.
- B. Winch will be minimum 30,000 lbs. slow speed. Power in, power out, free spool, brake-on and brake-off.
- C. Wire rope will be  $\frac{3}{4}$ " x 100', 6 x 19 class, IWRC, XXIPS with hook and tail chain.
- D. Fairlead will be four-roller.
- E. Shall include extended drawbar mounted under winch to accommodate pulling of implements.

## **13. CONDITIONS**

- A. In addition to the equipment specified, the tractor shall be equipped with all standard equipment provided by the manufacturer for commercial or industrial use as specified in literature published by the manufacturer. The tractor shall comply with all federal and state safety regulations and standards.
- B. The supplier shall be responsible for delivering the tractor properly serviced, clean and in first class operating condition. Pre-delivery service, at a minimum, shall include:
  - 1. Complete lubrication.
  - 2. Check and fill all fluids.
  - 3. Verification of proper engine settings.
  - 4. Adjust tracks to proper tension.
  - 5. Check operation of all functions, gauges and accessories.
  - 6. Clean and remove unnecessary tags, stickers, marks, etc.
  - 7. Provide 20 gallons of fuel.
- C. Each tractor shall come with one (1) Operators Manual.
- D. The Vendor will supply five (5) parts manuals and five (5) service manuals.
- E. Each tractor is to be completely assembled (unless noted otherwise in this specification), including options and attachments; thoroughly tested and ready for operation upon delivery.
- F. The manufacturer's warranty coverage must be, at a minimum, twelve (12) months full coverage, a manufacturer's five (5) year, 1500 hour, extended power train warranty and a six (6) year 3000 hour undercarriage warranty shall be included. The "warranty effective date" shall be the date that the tractor is put into service by the Mississippi Department of Wildlife, Fisheries, and Parks. A copy of the warranty and a Manufacturer's Certificate of Origin are to be delivered with each invoice.
- G. Tractor Outfitting - All tractor outfitting shall be performed at an authorized facility, approved both by the tractor manufacturer and the Mississippi Department of Wildlife, Fisheries, and Parks.
- H. Four (4) hours of operator training shall be provided for each tractor at each location. The training shall include operation, service and safety training.
- I. All crawlers will be delivered after Purchase Order has been received by winning bidder **within 180 days** complete, per these specifications, to the Turcotte Shooting Range, 506 MS-43, Canton, MS 39046.
- J. The Mississippi Department of Wildlife, Fisheries, and Park estimate the number of tractors being purchased at a minimum of two (2) units and a maximum of three (3) units depending on available funding.

NOTE 1: References to "SAE" codes refer to individual ratings for standards of quality and safety established by the Society of Automotive Engineers. Please refer to website: <http://www.sae.org>.

