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16711/Pump Engines
D8(m) Policy Ltr 02-2005
22 November 2005

MEMORANDUM

From: R. W. BRANCH
CCGD8 (m)

To: Distribution

Subj: ELECTRONICALLY CONTROLLED CARGO PUMP ENGINES ON BOARD TANK BARGES

Ref: (a) 46 CFR 111.105-31(l)

1. **PURPOSE:** This Policy Letter promulgates regulatory enforcement guidance for electronically controlled cargo pump engines installed on tank barges.

2. **DIRECTIVES AFFECTED:** None.

3. **DISCUSSION:**

a. Reference (a) describes Class I, Division 1 locations for a tank barge that carries a flammable or combustible cargo with a flashpoint below 60 degrees C (140 degrees F), as any electrical equipment located within 10 feet (3 meters) of a cargo tank vent outlet, cargo tank ullage opening, cargo pipe flange, or cargo valve.

b. The old mechanical start diesel prime mover engines used for the cargo pump on older tank barges did not use electrical equipment for their operation; therefore, reference (a) was not a concern for most barges. However, the introduction of electronically controlled prime mover engines for the cargo pumps for tank barges over the last 10 years has lead to electrical ignition sources and engine monitoring and control systems being located in Class I, Division 1 areas.

c. The following guidance applies specifically to cargo pump engines manufactured by John Deere; however, electronically controlled cargo pump engines manufactured by other companies must also meet the requirements of reference (a) for Class I, Division 1 areas. If an OCMI suspects other manufacturers of not meeting these requirements, the OCMI should require the manufacturer to provide the appropriate approval documentation.

d. On the electronically controlled prime movers manufactured by John Deere, the noted electrical ignition sources include the control panel, notification light, alternator, batteries, and the ECM computer, including all the associated wiring on the engine for the sensors. To make these prime mover engines safe for operation in a Class I, Division 1 area, the manufacturer has developed several components that can be retrofitted on these engines to bring them into compliance with reference (a). These components include a new control panel, notification light, and the correct gland fittings for all components approved for use in

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Class I, Division 1 locations. Enclosed are several pictures which show examples of the correct components. The modified control panel is noted in enclosure (1). The proper gland fittings with battery vent are showed in enclosure (2). A close-up of the gland fitting is in enclosure (3).

e. In addition, John Deere is in the process of designing a wire harness for the sensors that meet reference (a). They are also in the process of obtaining proper certification of the "Pyroban" alternator at a Coast Guard accepted independent laboratory.

f. Recognizing the potential negative national impact of requiring hundreds of gas, oil and chemical tank barges to be removed from service for immediate retrofit of these components, the following enforcement guidance will be used:

(1) Existing tank barges (ones with existing COIs): OCMIs should issue a CG-835 requiring the barges to make the modifications indicated in paragraph 3.d. no later than May 30, 2006. A separate CG-835 should be issued regarding the wire harness and alternator. Since these components are still being designed or tested, a CG-835 requiring that the alternator and the wire harness to the sensors be replaced to meet Class I, Division 1 areas should be issued with a compliance date of no later than August 30, 2006. OCMIs may extend these compliance dates if they feel that the barge companies are making good progress on the retrofits. There should be no cargo restrictions during this period. OCMIs need not make additional visits to tank barges specifically to search for these deficiencies but will check for them during any regularly scheduled tank barge inspection or during an investigation of a marine casualty.

(2) New tank barges: Initial COIs should not be issued until the barges make the modifications indicated in paragraph 3.d. A CG-835 should be issued regarding the wire harness and alternator. Since these components are still being designed or tested, a CG-835 requiring that the alternator and the wire harness to the sensors be replaced to meet Class I, Division 1 areas should be issued with a compliance date of no later than August 30, 2006. OCMIs may extend this compliance date if they feel that the barge companies are making good progress on the retrofits. There should be no cargo restrictions as long as the modifications in paragraph 3.d. are made.

4. **ACTION:**

a. Eighth District OCMIs shall implement this guidance and disseminate the contents of this Policy Letter to owners and operators of all tank barges operating in the Eighth District.

b. OCMIs should ensure that all tank barges equipped with John Deere electronically controlled engines are issued CG-835s as per paragraphs 3.f.1. or 3.f.2.

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5. **FEEDBACK:** Questions on this policy should be referred to the Eighth Coast Guard District, D8(moc), at 504-589-2455.

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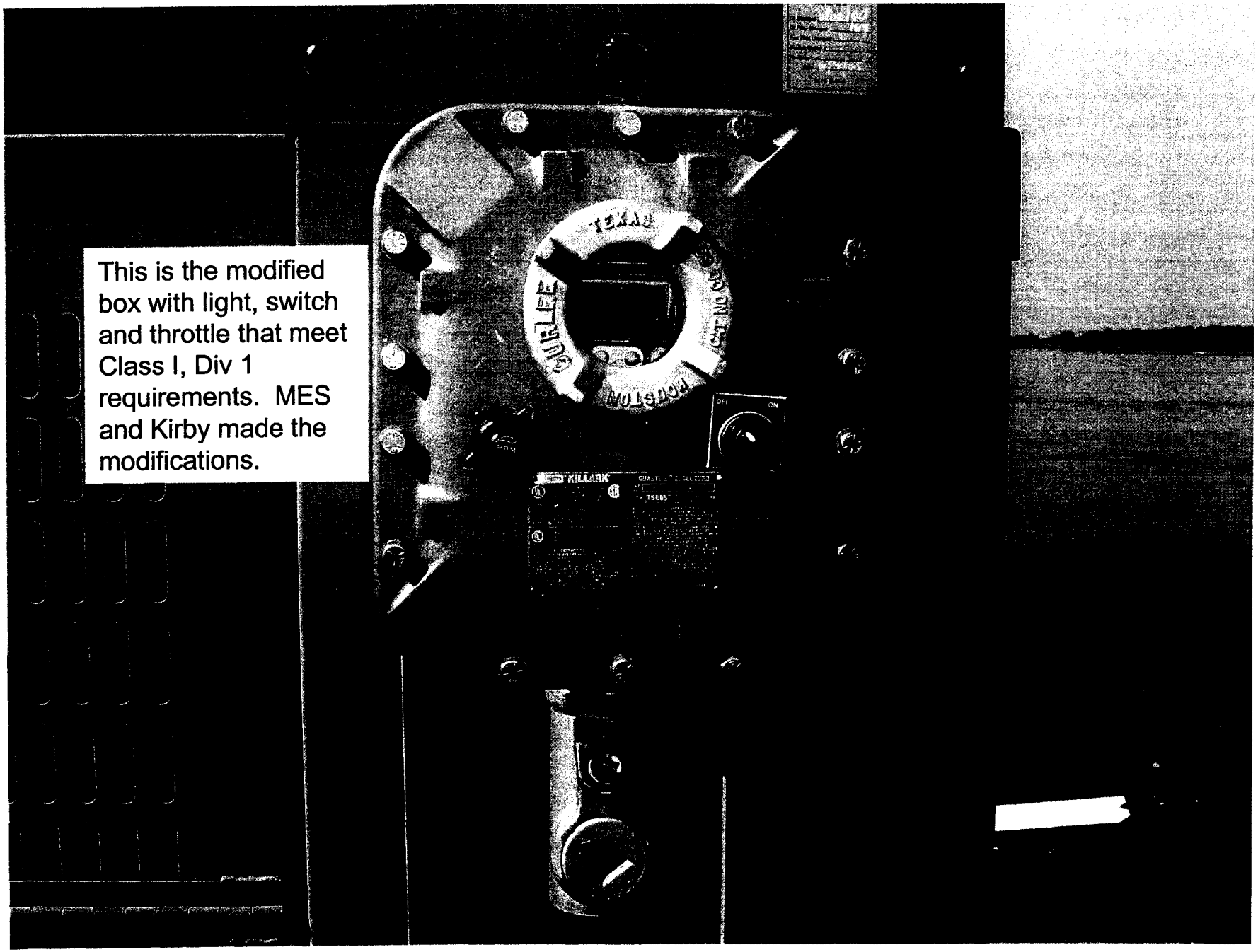
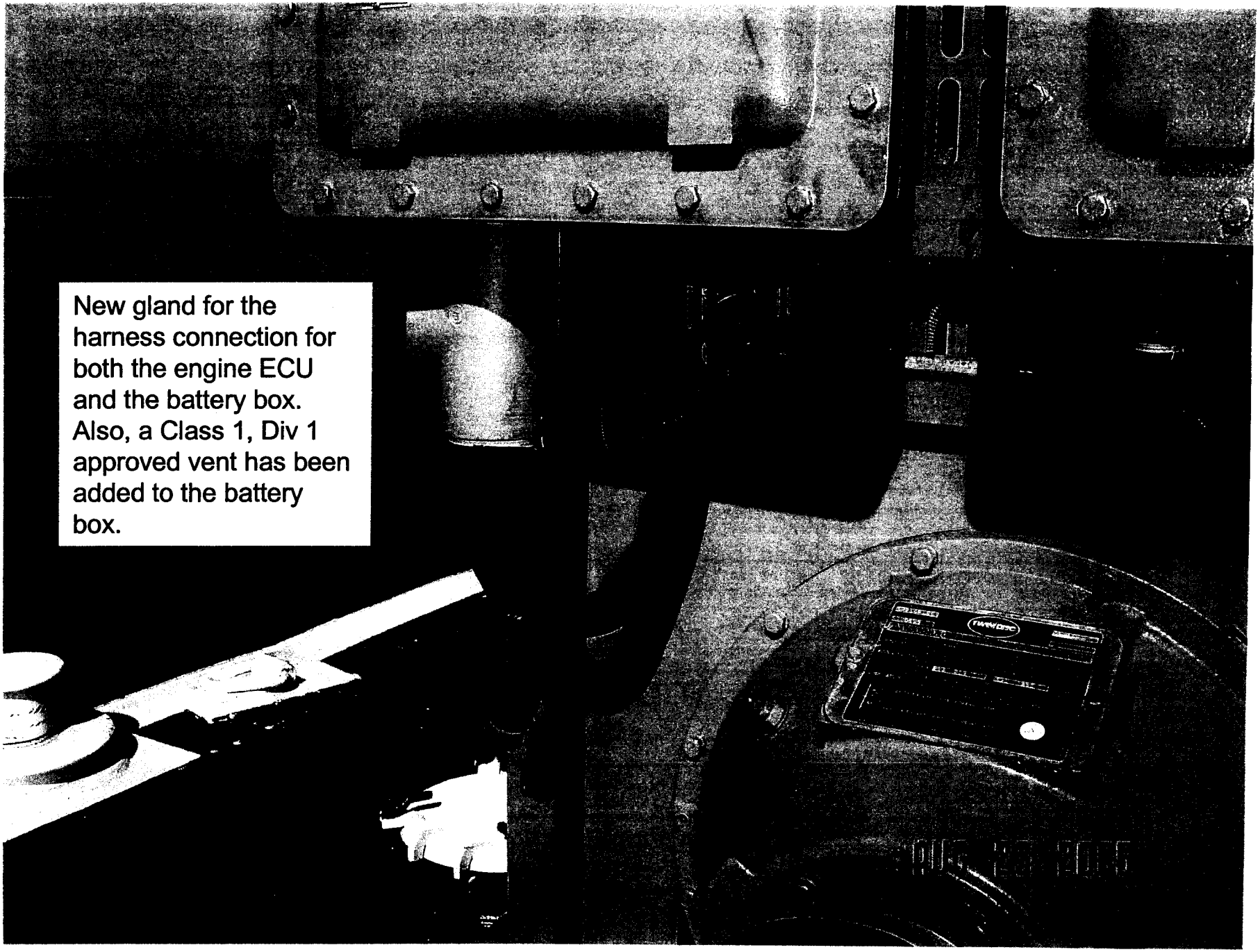
Encl: (1) Picture of modified control panel
(2) Picture of proper gland fitting
(3) Close-up picture of proper gland fitting

Dist: All Eighth District Sectors, MSOs & MSUs

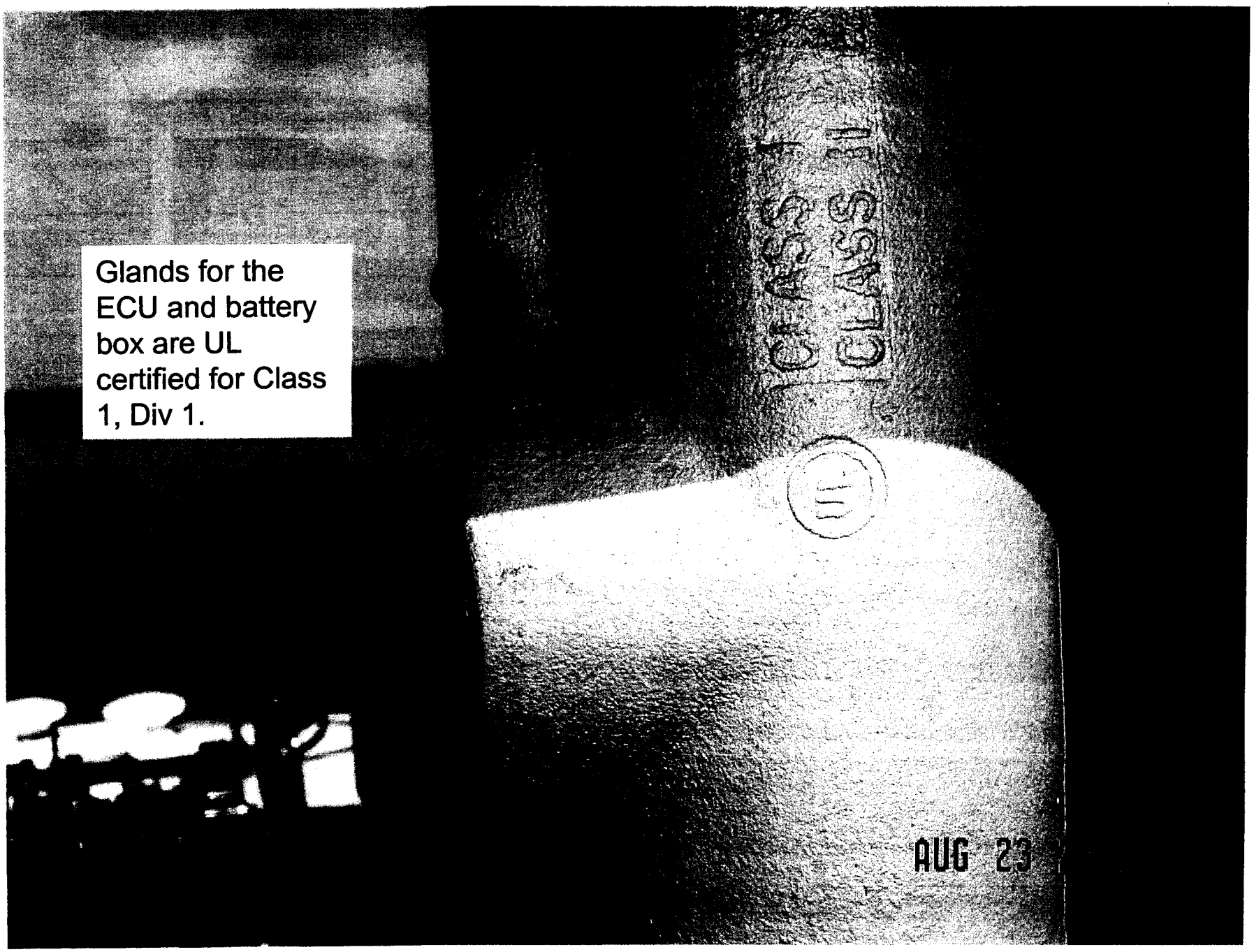
Copy: G-MOC
G-MSE
MSC


This is the modified box with light, switch and throttle that meet Class I, Div 1 requirements. MES and Kirby made the modifications.
TEXAS
OFF
ON
KILLARK

Enclosure (1)


New gland for the harness connection for both the engine ECU and the battery box. Also, a Class 1, Div 1 approved vent has been added to the battery box.

Enclosure (2)



Glands for the ECU and battery box are UL certified for Class 1, Div 1.

Enclosure (3)