| ~         |                                   |
|-----------|-----------------------------------|
| $\propto$ | CALIFORNIA<br>AIR RESOURCES BOARD |
| A         | CALIFURNIA                        |
| NE INN    | AIR RESOURCES BOARD               |

Pursuant to the authority vested in California Air Resources Board by Health and Safety Code (HSC), Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order G-19-095;

IT IS ORDERED AND RESOLVED: That the following exhaust and evaporative emission control systems produced by the manufacturer are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

|  |  |      |             | and a state of the | <u>, , , , , , , , , , , , , , , , , , , </u> | TEST GRO  | UP IN  | FORM                                   | ATION                              |            |  |                   |                                      |  |  |
|--|--|------|-------------|--------------------|---|-----------|--------|--|------------------------------------|------------|--|-------------------|--------------------------------------|--|--|
| MODE   |  | TES  | T GROUP     |                    | VEHICL  | S)        |        | FUEL CATEGORY                          |                                    |            | FUEL TYPE  |                   |                                      |  |  |
| 2023   |  | MBMX |             |                    |   | PC        |        | L                                      | DEDICATED SINGLE FUEL<br>VEHICLE   |            |  | GASOLINE          |                                      |  |  |
|  | USEE   |      | IFE (miles) | 1                  | VEH   | CLE EMISS | ION C  | ATEG                                   | ORY                                | T          | INTERIM / INT  | E                 | RMEDIATE IN-USE STD                  |  |  |
|  | HORV   |      | EVAP        |                    |   | TP        |        |  | FTP FTP                            |            |  | SFTP              |                                      |  |  |
|  | 50000  |      | 150000      |                    |   | ULEV70    | LEV    | 3 CO                                   | MPOSITE                            | ITE *      |  | PM                |                                      |  |  |
|  |  |      | TURES & EX  | HAU                | IST EMISSIO                                   |           |        |  | OBD S                              | OBD STATUS |  | ENGINE DISPLACEME |                                      |  |  |
| SYSTEMS<br>1 TWC, WR-HO2S, HO2S, DFI, TC, CAC          |  |      |             |                    |   |           |        |  | FULL                               | T          | *  |                   |                                      |  |  |
| *  |  |      |             |                    |   |           |        |  | ARTIAL                             | t          | SOME MODELS  | 3.0               |                                      |  |  |
| *  |  |      |             |                    |   |           |        |  | TIAL WITH                          |            | SOME MODELS  |                   |                                      |  |  |
|  |  |      | E           | VAP                | ORATIVE &                                     | REFUELING | i (EVA | P/OR                                   | VR) FAMIL                          | Y          | INFORMATION  |                   |                                      |  |  |
| EV   | AP / O   | RVR  | FAMILY      |                    | APORATIVE                                     |           |        | 1                                      | EVAP EMISSION STD<br>VEHICLE CLASS |            |  |                   | SPECIAL FEATURES                     |  |  |
|  | MBMXR  | 2015 | 0G30        | :                  | LEV 3 OPTI                                    | ON2 WITH  | FEL    | PC                                     |                                    |            |  | *                 |                                      |  |  |
|  |  |      |             |                    | E   | MISSION C | REDI   | TINFO                                  | RMATION                            |            |  |                   |                                      |  |  |
| NMOG+NOX FLEET AVE.<br>CREDIT FOR EXTENDED<br>WARRANTY |  |      |             |                    |   |           |        | N-PZEV NMOG CREDIT FOR DOR             |                                    |            |  | 2                 | OPTIONAL EXH. STD<br>FOR WORK TRUCKS |  |  |
|  |  | ľ    | Ň           |                    |   | N         |        | N N                                    |                                    |            |  |                   | N                                    |  |  |
|  |  |      |             |                    | NMOG  | AND FLEE  | TAVE   | RAG                                    | E INFORMA                          | 41         | TION   |                   |                                      |  |  |
| 1  | NMOG CH4 FTP<br>RAF RAF NMOG/NMHC RATIO RATIO (g/mi) |      |             |                    |   | (0-37     |        | 0 LVW)   LDT (3751 LVW-8500   MDV (10, |                                    |            | NMOG+NOX FLEET STD<br>MDV (10,001-14,000<br>GVWR) (g/mi) |                   |                                      |  |  |
| *  | *  |      | 1.10        |                    | *   |           | 0.058  | 3                                      | 0.065                              |            |  | *                 |                                      |  |  |

See the Attachment for Vehicle Models, Evaporative Family, Engine Displacement, Emission Control Systems, Phase-In Standards, OBD Compliance, Emission Standards and Certification Levels, and Abbreviations. (As applicable, heavy-duty vehicles (HDV) over 14,000 pounds in GVWR listed in this Executive Order are certified to the requirements in 13 CCR Section 1961.2 applicable to MDV pursuant to 13 CCR Section 1956.8(c)(3) or 13 CCR Section 1956.8(h)(5), as applicable.)



## BE IT FURTHER RESOLVED:

The exhaust and evaporative emission standards and the certification emission levels for the listed vehicles are as listed on the Attachment. Compliance with the 50° Fahrenheit testing requirement may have been met based on the manufacturer's submitted compliance plan in lieu of testing. Any debit in the manufacturer's fleet average compliance requirement for NMOG+NOx or Vehicle Equivalent Credit (13 CCR Sections 1961.2(b)(1), 1961.2(b)(3), or 1961.2(c) (3), and the incorporated test procedures, as applicable), or Greenhouse Gas Emissions (13 CCR Section 1961.3, or 17 CCR Section 95663, and the incorporated test procedures, as applicable), for PC, LDT, MDPV or MDV shall be equalized as required.

### BE IT FURTHER RESOLVED:

For the listed vehicle models, the manufacturer has attested to compliance with Title 13, California Code of Regulations, (13 CCR) Sections 1965 [emission control labels], 1968.2 [on-board diagnostic, full or partial compliance], 2035 et seq. [emission control warranty], 2235 [fuel tank fill pipes and openings] (gasoline and alcohol fueled vehicles only), and "High-Altitude Requirements" and "Inspection and Maintenance Emission Standards" (California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for PC, LDT and MDV).

#### **BE IT FURTHER RESOLVED:**

The listed vehicle BMW 540i and 540i xDrive models are conditionally certified in accordance with 13 CCR Section 1968.2(k) (deficiency and fines provisions for certification of malfunction and diagnostic system) because the on-board diagnostic II (OBD) system of the vehicles has been determined to have three (3) deficiencies. The listed vehicle models are approved subject to the manufacturer paying a fine of twenty-five dollars (\$25) per vehicle for the third deficiency in the listed test group that is produced and delivered for sale in California.

On a quarterly basis, the manufacturer shall submit to the Air Resources Board reports of the number of vehicles produced and delivered for sale in California and pay the full fine owed for that quarter pursuant to this conditional certification. Payment shall be made payable to the State Treasurer for deposit in the Air Pollution Control Fund no later than thirty (30) days after the end of each calendar quarter during the 2021 model-year production period. Failure to pay the quarterly fine, in full, in the time provided, may be cause for the Executive Officer to rescind this conditional certification, effective from the start of the quarter in question, in which case all vehicles covered under this conditional certification for that quarter and all future quarters would be deemed uncertified and subject to a civil penalty of up to \$37,500 per violation per vehicle pursuant to HSC Section 43154.

Vehicles certified under this Executive Order shall conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed on this 26th day of June 2020.

Allen Lyons, Chief Emissions Certification and Compliance Division



FUEL TYPE

# EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

# EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS (FTP, HWFET, 50°F, 20°F)

CH4: methane; NMOG: non-CH4 organic gas; HC: hydrocarbon; NMHC: non-CH4 HC; CO: carbon monoxide; NOx: oxides of nitrogen; HCHO: formaldehyde; PM: particulate matter; RAF: reactivity adjustment factor; 2DHS/3DHS [g HC/test]: 2/3 days diurnal+hot-soak; RL [g HC/mi]: running loss; ORVR [g HC/gallon dispensed]: on-board refueling vapor recovery; g: gram; mg: milligram; mi: mile; K: 1000 miles; F: degrees Fahrenheit; FTP: federal test procedure; SFTP: supplemental FTP

|                       | 1.0                        |       | 11 1                   |                  |                  |           |                        |             |      |           |                              |              |              |                        |         |            |                                |  |  |  |  |
|-----------------------|----------------------------|-------|------------------------|------------------|------------------|-----------|------------------------|-------------|------|-----------|------------------------------|--------------|--------------|------------------------|---------|------------|--------------------------------|--|--|--|--|
|                       |                            |       |                        | NI               | MOG+N(<br>(g/mi) | Cx        |                        | CO<br>g/mi) |      |           | lOx<br>/mi)                  | 1            | HCHO<br>ng/m |                        |         | PN<br>(g/m |                                |  |  |  |  |
|                       |                            |       |                        | CEF              |                  | TD        | CERT                   | STD         | 0    | CERT      | STD                          | CERT         |              | STD                    | CEF     | ERT ST     |                                |  |  |  |  |
| FTP@50                | K                          | *     |                        | *                |                  | *         | *                      | *           |      | *         | *                            | *            |              | *                      | *       |            | *                              |  |  |  |  |
| FTP@U                 |                            | ASOLI |                        | 0.0              | 36 0             | .070      | 0.1                    | 1.7         |      | ×         | *                            | *            |              | 4                      | 4 0.000 |            | 0.003                          |  |  |  |  |
| 50°F @4               |                            | ASOLI |                        | 0.0              | 31 0             | .140      | 0.2                    | 1.7         |      | *         | *                            | *            |              | 16                     | .6      |            |                                |  |  |  |  |
|                       |                            |       |                        |                  | CUE              |           | =                      |             |      | N         | MOG+NO                       | Dx (g/mi)    | _            |                        | CO (g   |            |                                |  |  |  |  |
|                       |                            |       |                        |                  | FUE              |           |                        |             |      | CE        | ERT                          | STD          |              | CER                    | T       | ;          | STD                            |  |  |  |  |
| HWFET                 | r @ 50                     | ĸ     |                        |                  |                  | *         |                        |             |      |           | *                            | *            |              |                        |         |            |                                |  |  |  |  |
|                       | T @ UI                     |       |                        | G                | ASOLIN           | E-TIEF    | 3 E10                  |             |      | 0.        | 020                          | 0.070        |              |                        |         |            |                                |  |  |  |  |
| 20°F                  | @ 50K                      |       | COLD                   |                  |                  |           |                        | C (TIER     |      |           |                              |              |              | 0.4                    |         | 10.0       |                                |  |  |  |  |
|                       |                            |       |                        | SFTP             | EXHAU            | ST EM     | ISSION                 | STANDA      | RDS  | AND C     | ERTIFIC                      | ATION LE     | VEL          | S                      |         |            |                                |  |  |  |  |
|                       |                            |       |                        |                  |                  | ι         | JS06                   |             |      |           | SC03                         |              |              |                        |         | MPOSITE    |                                |  |  |  |  |
|                       | FUEL                       | TYP   | E                      | N                | MOG+N<br>(g/mi)  | Ox        | CO<br>(g/mi)           | Pl<br>(mg/  |      | 1         | G+NOx<br>/mi)                | CO<br>(g/mi) |              | OG+NO:<br>(g/mi)       | 1       | CO<br>/mi) | PM<br>(mg/mi)                  |  |  |  |  |
|                       | @4K *                      |       |                        |                  |                  |           | CE                     | RT          | *    |           | *                            |              |              |                        | *       | *          |                                |  |  |  |  |
| @ 4K                  |                            |       | ST                     | D                | *                |           | *                      | *           |      | +         | *                            |              |              |                        |         |            |                                |  |  |  |  |
|                       |                            |       | CE                     |                  | *                |           | *                      | 2           | 2    |           | *                            | *            | 0            | .032 0.2               |         | .2         | *                              |  |  |  |  |
| @ UL                  | GASOLINE-<br>TIER3 E10 STD |       | *                      | * *              |                  | 6         |                        |             | *    |           | 0                            | 0.077        |              | 4.2                    |         |            |                                |  |  |  |  |
|                       | TIER                       |       |                        | N                |                  |           |                        |             |      |           |                              |              | 0.070        |                        |         |            |                                |  |  |  |  |
|                       |                            | V     | VHOLI                  | VEHI             | CLE EV           | APORA     | TIVE E                 | MISSION     | STA  | NDAR      | DS AND                       | CERTIFIC     | ATIO         | N LEVE                 | LS      |            |                                |  |  |  |  |
|                       |                            | 1     |                        |                  |                  | W         | HOLE V                 | EHICLE      | EVAP | ORAT      | IVE TES                      | ring         |              |                        |         |            |                                |  |  |  |  |
| EVAPORATIVE<br>FAMILY |                            |       |                        | FIFI YPF 1 30031 |                  |           |                        |             |      | 2DH       | S (g/test                    | ) @ UL       | @ UL         |                        | (L (g/r | g/mi) @ UL |                                |  |  |  |  |
|                       | FAMILI                     |       | FAMILI                 |                  | CEF              | RT :      | STD                    | FEL         | CE   | RT        | STD                          | FEI          | FEL          |                        | CERT    |            | STD                            |  |  |  |  |
| 1                     | MBMXR0150G30               |       | TTER                   | LINE-            | 0.1              |           | .300                   | 0.300       |      | 226 0.300 |                              |              | 0.300 0.     |                        |         |            |                                |  |  |  |  |
|                       | ORVR                       | / FUE | LONL                   | YICA             | NISTER           | BLEEL     | DEVAP                  | ORATIVI     | EEMI | SSION     | STAND                        | ARDS ANI     | DCE          | RTIFICA                | TION    | LEVE       | LS                             |  |  |  |  |
|                       |                            | 1     |                        |                  |                  |           |                        |             | F    | UEL O     | NLY EVA                      | AP & CAN     | ISTE         | R BLEE                 | D       |            |                                |  |  |  |  |
|                       | L'UN OIOIIITE              |       | APORATIVE ORVR (g/gall |                  |                  | gallon) ( | on) @ UL<br>FUEL TY    |             |      |           | OHS RIG TEST<br>g/test) @ UL |              |              | 2DHS RIG<br>(g/test) @ |         |            | BLEED CANIST<br>EST (g/test) @ |  |  |  |  |
|                       |                            | ŀ     | FUEL                   | TYPE             | CERT             | STD       | 1                      |             | C    | ERT       | STD                          | CERT         |              | STD                    | CE      | RT         | STD                            |  |  |  |  |
| MBMX                  | R0150                      | G30   | GASO                   | INE-<br>E10      | 0.04             | 0.20      | GASOLINE-<br>TIER3 E10 |             | *    | *         | *                            |              | *            | 0.004                  |         | 0.020      |                                |  |  |  |  |

| CALI<br>AIR RESO   | FORNIA<br>urces board   | RNIA<br>BAYERISCHE<br>MOTOREN WERKE AG  |  |   | Executive Order: A-008-0527<br>New Passenger Cars, Light-Duty Trucks a<br>Medium-Duty Vehic<br>Page 4 of |  |  |  |  |  |
|--|---|---|--|---|--|--|--|--|--|--|
| EFFECTIVE LEAK DIAMETER STANDARD AND CERTIFICATION LEVEL (INCHES)  |   |   |  |   |  |  |  |  |  |  |
| EVAPORATIVE FAMILY   | LEAK FAMILY   |   | CERT   | Г   | STD  |  |  |  |  |  |
| MBMXR0150G30   | MBMXR0150G30-0  | 01  | 0.00   | )   | 0.02   |  |  |  |  |  |
| LDT<6000#GVWR,3751-5750<br>8500#ALVW; MDV: medium-o<br>duty passenger vehicle; HDV<br>emission limit; GVWR: gross<br>ULEV: ultra LEV; SULEV: sup<br>ADSTWC: adsorbing TWC; H<br>SCRC/SCR-N or SCRC-NH3<br>continuous/periodic trap oxidi<br>heated/oxygen sensor; WR-H<br>RDQS: reductant quality sens<br>EGRC: EGR cooler; AIR/AIRI<br>fuel injection; DFI/IFI: direct/ir | 0#LVW; LDT3: LDT 600<br>duty vehicle; MDV4: ME<br>heavy-duty vehicle; E0<br>vehicle weight rating; L<br>per ULEV; ZEV: zero-en<br>AC: HC adsorbing cata<br>selective catalytic redu<br>zer; DPF: diesel particu<br>IO2S or AFS: wide rang<br>sor; NH3S: ammonia se<br>E: secondary air injection<br>direct fuel injection; TO | 01-8500<br>0V 850<br>CS: em<br>VW: loa<br>nission<br>alyst; W<br>uction-tu<br>late filt<br>ge/linea<br>ensor; E<br>on (belt<br>C/SC: tu | 0#GVWR,3751-5750<br>1-10000#GVWR; ME<br>ission control system<br>aded vehicle weight;<br>vehicle; TZEV: trans<br>/U: warm-up catalyst<br>urea/ammonia; NH30<br>ter (active); GPF: PM<br>tr/heated air-fuel ratio<br>EGR: exhaust gas re<br>driven)/(electric driv<br>urbo/super charger; ( | #ALVW; LDT4: I<br>0V5: MDV 1000<br>n; CERT: certific:<br>ALVW: adjusted<br>sitional ZEV; TW<br>; NAC: NOx ads<br>DC: ammonia ox<br>I filter for spark-i<br>o sensor; NOXS<br>circulation; HP/L<br>en); PAIR: pulse<br>CAC: charge air | cidation catalyst; CTOX/PTOX:  |  |  |  |  |  |

full/partial/partial with fines on-board diagnostic; DOR: direct ozone reducing; HCT: hydrocarbon trap; BCAN: bleed carbon canister; prefix 2: parallel; (2) suffix: series; a hyphen (-) between after treatment ECS indicates multiple functionalities of the after treatment device (ex. DPF-SCRC: SCR coated DPF); CNG/LNG: compressed/liquefied natural gas; LPG: liquefied petroleum gas; E85: "85%" ethanol ("15%"gasoline) fuel; E10: "10%" ethanol ("90%"gasoline) fuel; A: automatic (with lockup); M: manual transmission; SA: semi -automatic transmission; CV: continuously variable transmission; SCV: selectable continuously variable transmission; AM: automated manual transmission; AMS: automated manual-selectable transmission; OT: other transmission; AER: all-electric range; EAER: equivalent AER; PHEV: plug-in hybrid electric vehicle; NMOG + NOx Fleet Ave. Credit for Extended Warranty: N = no credits, Y = credits, S = credits for some/select models

|      | 2021 MODEL Y          | EAR: VEI  | HICLE MO   | ODELS INF  | ORMATION              |            |     |
|------|-----------------------|-----------|------------|------------|-----------------------|------------|-----|
| MAKE | MODEL                 | VEH CLASS | ENGINE (L) | TRANS TYPE | EVAPORATIVE<br>FAMILY | EXH<br>ECS | OBD |
| BMW  | 5401                  | PC        | 3.0        | SAS        | MBMXR0150G30          | 1          | \$  |
| BMW  | 5401 XDRIVE           | PC        | 3.0        | SA8        | MBMXR0150G30          | 1          | \$  |
| BMW  | M340I                 | PC        | 3.0        | SA8        | MBMXR0150G30          | 1          | P   |
| BMW  | M340I XDRIVE          | PC        | 3.0        | SA8        | MBMXR0150G30          | 1          | P   |
| BMW  | M440I XDRIVE<br>COUPE | PC        | 3.0        | SA8        | MBMXR0150G30          | 1          | P   |