

## Radio Addendum for LR80, LR81, LR83 & LR85 Series

### **SUPPLEMENTARY INSTRUCTIONS REGULATIONS FOR RADAR LEVEL MEASURING INSTRUMENTS WITH RADIO APPROVALS**

#### **RADIO COMPLIANCE**

This radar level measuring device has been tested to the harmonized EN 302372 (Tank Level Probing Radar) and EN 302729 (Level Probing Radar) standards, and complies with Part 15 of the FCC Rules, ISED Canada license-exempt RSS standard(s) and the Radio Equipment Directive 2014/53/EU of the European Union. Additionally, its Bluetooth radio complies with the norms and standards of the USA, Canada and European Union. Based on the device's installed location, see the below applicable radio license information regarding the safe and regulatory compliant use of this device.

#### **FCC RADIO LICENSE FOR USA**

This device complies with Part 15 of the FCC Rules and ISED Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15.256 and is approved for use only inside closed, stationary vessels made of metal, reinforced fiberglass or concrete. For operation outside of closed vessels, the following conditions must be fulfilled:

- This device shall be installed and maintained to ensure a vertically downward orientation of the transmit antenna's main beam. Furthermore, the use of any mechanism that does not allow the main beam of the transmitter to be mounted vertically downward is prohibited.
- This device shall be installed only at fixed locations. The device shall not operate while being moved or while inside a moving container.
- Hand-held applications are prohibited.
- Marketing to residential consumers is prohibited.

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

### IC RADIO LICENSE FOR CANADA

This device complies with Part 15 of the FCC rules and ISED Canada's license-exempt RSS standard(s). Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'ISED Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux conditions suivantes:

- l'appareil ne doit pas produire de brouillage.
- l'appareil doit accepter tout brouillage radio électrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Les antennes utilisées pour cet émetteur doivent être installées pour fournir une distance de séparation d'au moins 20 cm de toutes les personnes et ne doivent pas être co-localisées ou fonctionner en conjonction avec une autre antenne ou émetteur.

This device has been approved for both closed containers and open air environments with the following limitations:

- Closed Containers: For installations utilizing a tilt during installation: This device is limited to installation in a completely enclosed container made of metal, reinforced fiberglass or concrete to prevent RF emissions, which can otherwise interfere with aeronautical navigation.
- Open Air Environment: For operation outside of closed vessels, the following condition must be fulfilled: This device shall be installed and maintained to ensure a vertically downward orientation of the transmit antenna's main beam. Furthermore, the use of any mechanism that does not allow the main beam of the transmitter to be mounted vertically downward is prohibited.
- The installation of the LPR/TLPR device shall be done by trained installers, in strict compliance with the manufacturer's instructions.
- This device shall be installed only at fixed locations. The LPR device shall not operate while being moved or while inside a moving container.
- Hand-held applications are prohibited.
- Marketing to residential consumers is prohibited.

- The use of this device is on a “no-interference, no-protection” basis. That is, the user shall accept operations of high-powered radar in the same frequency band which may interfere with or damage this device. However, devices found to interfere with primary licensing operations will be required to be removed at the user’s expense.
- The installer/user of this device shall ensure that it is at least 10 km from the Dominion Astrophysical Radio Observatory (DRAO) near Penticton, British Columbia. The coordinates of the DRAO are latitude 49 19’15”N and longitude 119 37’12” W. For devices not meeting this 10 km separation (e.g., those in the Okanagan Valley, British Columbia,) the installer/user must coordinate with, and obtain the written concurrence of the Director of the DRAO before the equipment can be installed or operated. The Director of the DRAO may be contacted at 250-497-2300 (tel.) or 250-497-2355 (fax). (Alternatively, the Director of Regulatory Standards at ISED Canada may be contacted.)

Cet appareil est homologué pour une utilisation dans les cuves fermées et les environnements ouverts avec les restrictions suivantes:

- Cuves Fermées: Pour les installations impliquant une inclinaison lors de l'installation: cet appareil ne doit être installé que dans une cuve totalement fermée en métal ou en béton, pour empêcher les émissions RF susceptibles d'interférer avec la navigation aérienne.
- Environnement Ouvert: Pour l'utilisation hors des cuves fermées, la condition suivante doit être remplie: L'appareil doit être installé et entretenu de manière à garantir une orientation verticale vers le bas du faisceau principal de l'antenne émettrice. De plus, l'utilisation de tout mécanisme ne permettant pas l'orientation verticale vers le bas du faisceau principal de l'émetteur est interdite.
- L'installation d'un dispositif LPR ou TLPR doit être effectuée par des installateurs qualifiés, en pleine conformité avec les instructions du fabricant.
- Cet appareil ne doit être installé qu'à des emplacements fixes. L'appareil LPR ne doit pas être utilisé pendant qu'il est en train d'être déplacé ou se trouve dans un conteneur en mouvement.
- Un dispositif visé comme TLPR doit être installé et exploité dans un réservoir entièrement fermé afin de prévenir les
- Les applications portables sont interdites.
- La vente à des particuliers est interdite.
- Ce dispositif ne peut être exploité qu'en régime de non-brouillage et de non-protection, c'est-à-dire que l'utilisateur doit accepter que des radars de haute puissance de la même bande de fréquences puissent brouiller ce dispositif ou même l'endommager.
- D'autre part, les capteurs de niveau qui perturbent une exploitation autorisée par licence de fonctionnement principal doivent être enlevés aux frais de leur utilisateur.
- La personne qui installe/utilise ce capteur de niveau doit s'assurer qu'il se trouve au moins 10 km de l'Observatoire fédéral de radioastrophysique (OFR) de Penticton en Colombie-Britannique. Les coordonnées de l'OFR sont: latitude N 49 19' 15", longitude O 119 37' 12". La personne qui installe/utilise un dispositif ne pouvant respecter cette distance de 10 km (p. ex. dans la vallée de l'Okanagan [Colombie-Britannique]) doit se concerter avec le directeur de l'OFR afin d'obtenir de sa part une autorisation écrite avant que l'équipement ne puisse être installé ou mis en marche. Le directeur de l'OFR peut être contacté au 250-497-2300 (tél) ou au 250-497-2355 (fax). (Le Directeur des Normes réglementaires d'ISED Canada peut également être contacté).

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Cet équipement est conforme aux limites d'exposition aux rayonne-ments ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

### RED 2014/53/EU RADIO LICENSE FOR EUROPEAN UNION

This device complies with ETSI EN 302372 (Tank Level Probing Radar), ETSI EN 302729 (Level Probing Radar) and EN 62311 (Electromagnetic Fields), which permits compliant use inside and outside closed vessels per the following operating conditions:

- For operation inside of closed vessels, points a to f in annex E of EN 302372 must be fulfilled.
- For operation outside of closed vessels, the following conditions must be fulfilled:
  - The instrument must be stationary mounted and the antenna directed vertically downward.
  - The mounting location must be at least 4 km away from radio astronomy stations, unless special permission was granted by the responsible national approval authority.
  - When installed within 4 to 40 km of a radio astronomy station, the instrument must not be mounted higher than 15m above the ground.
  - The following table shows the geographic position of the radio astronomy stations in Europe:

Country	Station	Latitude	Longitude
Finland	Metsähovi	60°13'04" N	24°23'37" E
France	Plateau de Bure	44°38'01" N	05°54'26" E
Germany	Effelsberg	50°31'32" N	06°53'00" E
Italy	Sardinia	39°29'50" N	09°14'40" E
Spain	Yebes	40°31'27" N	03°05'22" W
	Pico Veleta	37°03'58" N	03°23'34" W
Sweden	Onsala	57°23'45" N	11°55'35" E

For the receiver test that covers the influence of an interferer signal to the device, the performance criterion has at least the following level of performance according to ETSI TS103 361 [6]:

- Performance criterion: Variation of the measured value  $\Delta d$  over time during a distance measurement.
- Performance level:  $\Delta d \leq 2$  mm.