

**USNWG ON TAXIMETERS
SEPTEMBER 18, 2013
WEB-CONFERENCE SUMMARY**

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I. Carry-over items

A. Point-of-Sale Systems definition in HB44 Appendix D

Background:

The USNWG has held discussions during several meetings since September 2012 regarding this issue. These discussions involved the determination of what components within a taximeter system would constitute a point-of-sale system (POS). An issue that was addressed during those meetings was the development of a requirement for a recording element to be included in a taximeter system by classifying the system as a POS. During its meeting in July 2013 however, the USNWG agreed to abandon further attempts to amend the existing definition in NIST Handbook 44 (HB44) for a point-of-sale system so that definition could be applied to a given system as a means to require a recording element as part of that system.

The work group also agreed at that time however, that the existing definition for point-of-sale systems in HB44, Appendix D should be amended to make that term more clearly understood and more suitable to apply to all types of weighing and measuring devices. Acknowledging that a

substantial amount of deliberation by the USNWG has been devoted to the development of a proposal to amend this definition, the USNWG agreed that this agenda item should not be discarded completely but rather that it should be given further attention by the work group to further clarify the term.

Since POS are found in use with many different types of weighing and measuring devices, the physical hardware components used to accomplish the functions of a POS may be significantly different depending on what type of weighing or measuring device they are attached to. The POS system used in conjunction with a motor fuel dispenser may serve the same general purpose as a POS attached to a checkout scale in a retail market however, the physical hardware used in these systems will differ.

Discussion:

The USNWG has agreed that the existing definition for POS in HB44, Appendix D could be improved by describing the specific functions of a generic POS system rather than defining the term by listing the hardware components used when the system is performing these operations. During the USNWG's July 2013 meeting, the work group reviewed the following draft proposal of an amended definition for POS:

point-of-sale system. – An assembly of **interactive** elements ~~**connected either wired or wirelessly**~~ including a weighing or measuring element, an indicating element, and a recording element (and may also be equipped with a “scanner”) used to complete a direct sales transaction. **The system components, when operated together shall be capable of the following:**

- 1. determining the weight or measure of a product or service offered;**
- 2. calculating a charge for the product or service based on the weight or measure and an established price/rate structure;**
- 3. determining a total cost that includes all associated fees involved with the transaction;**
- 4. providing a sales receipt when required by either buyer or seller in a form that is acceptable to all parties involved in the transaction.**

During that same meeting, additional changes to the draft were recommended by the USNWG. A change agreed upon by the work group was to clearly indicate that when agreed upon by the owner/operator of the device and the customer, an electronic receipt may be issued in place of a printed receipt. This notion is represented by the additional changes shown in the following draft.

point-of-sale system. – An assembly of **interactive** elements ~~**connected either wired or wirelessly**~~ including a weighing or measuring element, an indicating element, and a recording element (and may also be equipped with a “scanner”) used to complete a direct sales transaction. **The system components, when operated together must be capable of the following:**

- 1. determining the weight or measure of a product or service offered;**
- 2. calculating a charge for the product or service based on the weight or measure and an established price/rate structure;**
- 3. determining a total cost that includes all associated fees involved with the transaction;**
- 4. providing a printed sales receipt when required by either buyer or seller. For systems equipped with the capability to issue an electronic receipt, the customer may be given the option to receive the receipt electronically (e.g., e-mail, text message, computer file).**

At the work group's September 18, 2013 meeting, members of the USNWG were asked to review the latest changes in this proposal and then to respond to a poll to indicate whether or not they will support submitting this proposal as a recommendation to change HB44 Appendix D.

Mr. Bill Fishman questioned the use of the phrase "when required by either buyer or seller" in bullet point 4 in the draft above and stated that this language can provide the operator way to avoid issuing a receipt. He stated further that since it is primarily the buyer (passenger) as the party in a transaction that will benefit by obtaining a receipt, it would be more appropriate to base the requirement of a receipt on the buyer's needs.

Mr. Stan Toy noted also that the use of the terms "buyer" and "seller" to describe opposing roles in a transaction can be interchanged depending on the nature of the transaction and that perhaps there is a better way to describe the parties in a transaction.

Ms. Juana Williams pointed out that there is existing language found in the Liquid Measuring Devices Code that allows for the issue of electronic receipts and suggested that this language may be borrowed from to develop similar language and would provide consistency between NIST Handbook 44 (HB44) Codes.

Mr. Fishman suggested deleting the first sentence under #4 in the most recent draft (shown above). Others in the work group stated that it would not be possible to delete the entire first sentence and maintain continuity. It was agree upon by the work group however, that the wording "when required by buyer or seller" could be deleted without detracting from the meaning of the requirement.

Conclusion:

The NIST Technical Advisor shared the results of the poll taken regarding this item that indicated that the work group will support the proposed amendment. The work group members unanimously agreed to support this proposal provided that the wording "when required by buyer or seller" from the first sentence under #4 in this definition is removed as shown below.

point-of-sale system. – An assembly of interactive elements ~~connected either wired or wirelessly~~ including a weighing or measuring element, an indicating element, and a recording element (and may also be equipped with a “scanner”) used to complete a direct sales transaction. The system components, when operated together must be capable of the following:

1. determining the weight or measure of a product or service offered;
2. calculating a charge for the product or service based on the weight or measure and an established price/rate structure;
3. determining a total cost that includes all associated fees involved with the transaction;
4. providing a printed sales receipt when required by either buyer or seller. For systems equipped with the capability to issue an electronic receipt, the customer may be given the option to receive the receipt electronically (e.g., e-mail, text message, computer file).

B. Add new requirement: S.1.1.1. Recording Elements or amend S.1.9. Recorded Representation

1. Proposal to add new requirement S.1.1.1. Recording Elements

The initial proposal to add a new requirement titled **S.1.1.1. Point of Sale Systems** is closely related to the previous agenda item (Item I.A.) and was part of an initial effort of the work group to require that a recording element be included as a component in a taximeter system. The proposed new requirement is show below.

S.1.1.1 Point of Sale System. A printed receipt providing the required information in S.1.9. Recorded Representations shall be available through an integral or separate recording element for all transactions conducted with point-of-sale systems

[Nonretroactive 20XX]

(Added 20XX)

Background:

As noted in item I.A. in this summary, the USNWG has elected not to amend an existing definition found in HB44 Appendix D for the term “point-of-sale system.” Since the work group adopted this position, the original draft proposal to add a new paragraph; **S.1.1.1. Point of Sale Systems** has also been discarded.

The USNWG however, did not elect to completely abandon its effort to require that a recording element be included in a taximeter system. During the USNWG’s May 2013 meeting, another effort to require a recording element was considered by the work group. This effort involved a

revision to the proposal to add a new S.1.1.1. that categorized a system as a POS based on the existence of various components in a system and therefore as a POS was required to include a recording element to instead, stipulate that a recording element be required based on the features and capabilities of the taximeter system. The USNWG agreed that when a taximeter system was capable of performing certain functions necessary to process transactions within a complex rate structure, then that system should be required to include a recording element as a way to provide the passenger with a record of individual charges included in the total cost of the service. This record (i.e., printed receipt) could then be used to verify that individual charges are applied appropriately and to help reconcile any disputed charges.

This approach resulted in the draft of a proposed new paragraph **S.1.1.1. Recording Elements** as shown below.

S.1.1.1. Recording Elements. – A receipt providing the required information in S.1.9. Recorded Representations shall be available through an integral or separate recording element for all transactions conducted when any of the following criteria is met:

- a) **When the regulatory authority requires that a receipt be provided to the passenger;**
- b) **When extras permitted are in excess of those charges for additional passengers or transportation of luggage;**
- c) **When rate differentials are permitted for trips in excess of set limits on distance travelled or passage of time;**
- d) **When the total charges include fees for products or services not directly associated with the service of transportation of the customer.**

For systems equipped with the capability to issue an electronic receipt, the customer may be given the option to receive the receipt electronically (i.e., e-mail, text message, computer file, etc.).

[Nonretroactive 20XX]

(Added 20XX)

Additional discussions during the May 2013 meeting included the notion that a recording element should be required when the rate that the fare is based on changes during a trip for any reason. The above draft proposal was revised to include this notion and was then presented to the work group at its July 10, 2013 meeting.

During the July 10, 2013 USNWG meeting, members of the work group reviewed the revised proposal to add a new S.1.1.1. Recording Elements shown below.

S.1.1.1. Recording Elements. – A receipt providing the required information in S.1.9. Recorded Representations shall be available through an integral or separate recording element for all transactions conducted when any of the following criteria is met:

a) When the regulatory authority requires that a receipt be provided to the passenger;

b) When extras permitted exceed those charges for additional passengers or transportation of luggage;

c) When the rate applied is permitted to change for any reason after the initiation of, and prior to the conclusion of a trip;

d) When the total charges include fees for products or services not directly associated with the service of transportation of the customer.

For systems equipped with the capability to issue an electronic receipt, the customer may be given the option to receive the receipt electronically (e.g., e-mail, text message, computer file).

[Nonretroactive 20XX]

(Added 20XX)

While the USNWG generally agreed with this latest draft, another alternative for requiring a recording element in a taximeter system was also presented to the work group during the July 2013 USNWG meeting. This proposal, from Mr. Ross Anderson would amend the existing requirement, **S.1.9. Recorded Representation** instead of adding a new requirement (S.1.1.1.). This alternate approach would also serve to require a recording element within a taximeter system however would do so by amending the first paragraph in the current HB44 Taximeters Code requirement S.1.9. as shown below.

S.1.9. Recorded Representation. – A Except for taximeters that indicate or accumulate only fare and charges for additional passengers and baggage, a printed receipt issued from a taximeter, whether through an integral or separate recording element, shall include the following: providing the following information shall be available through a built-in or separate recording element for all transactions.

At the July 2013 meeting of the USNWG, the group was asked to review the latest amendments to the proposal to amend S.1.1.1. and to also consider an alternate proposal suggested by Mr. Ross Anderson.

The USNWG in general, favored the alternative proposal although some additional changes were suggested.

Discussion:

At the work group's July 10, 2013 meeting, the NIST Technical Advisor explained to the members the difficulty encountered during attempts to draft a revision for the proposed amendment of paragraph S.1.9. in a logical manner due to multiple nonretroactive dates associated with the main paragraph and some of the individual bullet points. The USNWG members were informed that multiple attempts by the NIST Technical Advisor to develop a draft of this amended requirement resulted in a convoluted requirement that would be excessively difficult to

interpret. The work group agreed that this approach was undesirable and agreed to revert to the initial approach where the addition of a new paragraph, **S.1.1.1. Recorded Representation** would be proposed. The work group acknowledged that this is a more rational means to accomplish the goal of requiring a recording element as part of a taximeter system.

While the USNWG agreed to follow the approach of proposing the addition of a new paragraph (S.1.1.1.), there were several questions about the development of this new requirement that were brought to the work group's attention.

Mr. Phillip Steiner pointed out that taximeters manufactured today have the ability to calculate fares using more than one rate although not every jurisdiction that they will operate in will use (or permit) multiple rates. Mr. Steiner questioned whether this requirement will be applied to a taximeter only during the type evaluation phase or will it be applied equally during field examinations. He explained that if applied during type evaluation, all devices will be required to undergo testing for compliance while attached to a recording element. When this requirement would be applied during field examinations, will there be any option for the inspector to not apply the requirement in jurisdictions that do not have more than a single rate?

He also added that this feature (to calculate at more than one rate) is sealable and would be programmed according to the requirements of the jurisdiction where the device is placed in service. Mr. Fishman added that the work group must be careful about the wording of this requirement so that it is clear whether the requirement applies to a taximeter that is capable of operating with multiple rates or should it only apply to taximeters that are actually programmed to operate using multiple rates.

Mr. Steiner also noted that the drafting of this requirement must be clear to specify whether the requirement for a recording element will apply to any meter that is capable of calculating fares at multiple rates or should it only apply to taximeters that will calculate at different rates during a single transaction.

Conclusions:

The work group agreed that this proposal needs further development based on the comments from Mr. Steiner and others. The NIST Technical Advisor will incorporate these comments into a revised draft of S.1.1.1. and present that revision to the USNWG at its next meeting.

2. Proposal to amend existing S.1.9. Recorded Representation

This proposal would require a recording element to be included in a taximeter system by amending the first paragraph in the current HB44 Taximeters Code requirement S.1.9. as shown below.

S.1.9. Recorded Representation. – A Except for taximeters that indicate or accumulate only fare and charges for additional passengers and baggage, a printed receipt issued from a taximeter, whether through an integral or separate recording element, shall include the following: providing the following information shall be available through a built-in or separate recording element for all transactions.

[Technical Advisor's Note: Changes to the subparagraphs under S.1.9. Recorded Representation were the subject of a separate agenda item that the USNWG was asked to consider during the July, 2013 meeting. Rather than considering all of the changes being proposed to this requirement under two separate agenda items, the changes affecting the first paragraph and those affecting the subparagraphs have been consolidated in this meeting summary.]

Background:

As mentioned previously under item I.B.1., the above proposed amendment of S.1.9. was offered as an alternative to the proposal of adding a new paragraph: **S.1.1.1. Recording Elements.**

During the USNWG's meeting in July 2013, the work group agreed that amending the existing **S.1.9. Recorded Representation** seemed to be an acceptable means to establish a requirement for a recording element to be a mandatory component in a taximeter system. Based on the comments and recommendations for changes to this proposed amendment heard during that meeting, the NIST Technical Advisor agreed to draft a revision for this proposal. One of these recommendations suggested replacing the term "built-in" with a more appropriate phrase.

Other recommended changes to this alternate proposal included extracting a portion of the initial draft proposal for adding a new S.1.1.1. paragraph and adding it to the alternative amended S.1.9. This change would specify that a receipt may be in an electronic form when all parties involved in a transaction approved.

Another suggestion from the work group was to specify that a recording element be required when more than one rate can be used to calculate a single fare. This change was considered to help a passenger better understand the total cost for transportation services when it may not be obvious to them by simply observing the taximeter display that a rate change has occurred during a trip. At the conclusion of the July 2013 meeting, the USNWG agreed that the amendment of paragraph S.1.9. would be supported by the work group if these additional amendments (as noted above) were included in the proposal.

Discussion:

During the USNWG's meeting on September 18, 2013, the work group was presented the revised proposal shown below.

S.1.9. Recorded Representation. – A Except for taximeters or taximeter systems that are capable only of indicating or accumulating charges for: fare calculated at a single rate; and extras charges assessed for transporting additional passengers and baggage , a printed receipt issued from a taximeter, whether through an integral or separate recording element, shall include the following: providing the following information shall be available.

This revision was presented to the work group however, the NIST Technical Advisor informed USNWG members of complications encountered while implementing changes to **S.1.9. Recorded Representation**. These problems were related to the composition of the existing paragraph involving the nonretroactive status of various portions of the current requirement. In order to add language into the main paragraph to require a recording element, the main paragraph would need to be given an updated nonretroactive status and a date in the future would need to be designated as the effective date for that portion of this requirement. Since this date would be associated with the main paragraph, other effective dates for additional nonretroactive portions (i.e., bullet points: b; c; d; f; g; and h) of the requirement would be affected.

As mentioned in the previous item (I.B.1.), when the work group considered the complications encountered in the revision of this proposed amendment, they agreed that the addition of a new paragraph, **S.1.1.1. Recorded Representation** would be a more appropriate method to require a recording element within a taximeter system.

Although the work group elected to not pursue an effort to amend the main paragraph in S.1.9., a number of proposed changes to the bullet points of the existing requirement were still topics that the USNWG agreed had merit. Consideration of changes to the bullet points in this existing requirement by the work group began during its September 2012 meeting. Further discussion on these changes by the USNWG took place during the July 10, 2013 meeting and included proposals to address the following issues:

- The provision to issue a receipt in electronic form was supported by the work group. This would depend however, on the ability of the taxi operator to provide such a receipt and the acceptance of the passenger to receive the same;
- A change to bullet point “f” to eliminate the wording “for multi rate taximeters”... This language was considered to be obsolete in that all taximeters on the market will now have the ability to calculate fares at more than one rate;
- Rewording of bullet point “h” to indicate that the total cost of the service provided (including extras charges and other additional charges) is the appropriate information that should be required; and
- To eliminate any language that can be interpreted to require that personal contact information (for an individual) be included on a receipt.

One additional change agreed to by the work group was the elimination of proposed language added during the September 2012 USNWG meeting in bullet point “g” which indicated that it is

optional whether extras and other additional charges would be identified and itemized on a receipt.

The proposed changes have been compiled and are shown in the draft proposal below.

S.1.9. Recorded Representation. – A printed receipt issued from a taximeter, ~~whether through an integral or separate recording element~~, shall include the following:

- (a) date;
- (b) unique vehicle identification number, such as the medallion number, taxi number, vehicle identification number (VIN) or permit number;*
- (c) start and end time of trip;*
- (d) distance traveled, maximum increment of 0.1 kilometer (0.1 mile);*
- (e) fare in \$;
- (f) ~~for multi rate taximeters~~, each rate at which fare was computed and the associated fare at that rate;*
- (g) additional charges **in \$** where permitted such as extras, surcharge, telephone use, tip and tax shall be identified and ~~may be itemized when required under local jurisdiction~~;* ~~and~~
- (h) total fare charge for service in \$ (~~total charges~~ sum of fare, extras, and all additional charges);*
- (i) any credits or discounts applied to the fare;**
- (j) trip number, if available** and
- (k) telephone number (or other contact information) for customer assistance**

[Nonretroactive as of January 1, 1989] *[Nonretroactive as of January 1, 2000] **[Nonretroactive as of January 1, 201X]
(Added 1988) (Amended 1999 and 201X)

Notes:

The recording element may be integral to the taximeter or may be a separate component in a taximeter system.

For systems equipped with the capability to issue an electronic receipt, the customer may be given the option to receive the receipt electronically (e.g., e-mail, text message, computer file).

During the September 18, 2013 USNWG meeting, the work group reviewed this draft and had additional comments and concerns.

Mr. Fishman noted that telephone use in a taxi is not typically offered as a service today and that this would most likely be replaced by internet usage. Others in the work group agreed and suggested that the language under bullet point “g” be changed to reflect this notion. It was

suggested that the wording referring to a telephone be replaced by telecommunication. Mr. Steiner pointed out that also under bullet point “g”, it has not been made clear that extras charges for the transport of additional passengers and the transport of luggage do not need to be itemized. He further stated that this was a point that the USNWG agreed upon during the July 2013 meeting.

Mr. Fishman also suggested that rather than inserting the phrase “in \$” in as many as three bullet points, it may be more appropriate to add a note or a statement in the main paragraph to indicate that all monetary amounts will be indicated in U.S. dollars (\$).

Ms. Aileen Fox stated that the use of the word “charges” would be more appropriate than the use of the word “fees” in a number of locations in the paragraph. She added that the term “charges” has a broader, more generic meaning than “fees” and will be a more suitable term to use when referring to monetary amounts assessed for various portions of a transaction.

Conclusions:

The work group agreed to support all of the additional changes as described above that were discussed during the September 2013 meeting and affect the bullet points under S.1.9.

The NIST Technical Advisor agreed to draft a revision showing the most recent changes to this paragraph and present it to the USNWG at its next meeting. At that time the work group members will review the draft and be asked to indicate whether or not it will be supported by the USNWG and if so, submitted as a proposed change to HB44 Taximeters Code.

C. Proposed amendments to paragraph S.1.2.

This proposal consisted of amendments to HB44 Taximeters Code existing paragraph **S.1.2. Advancement of Indicating Elements** to recognize that fare indications may be advanced by means other than the movement of the vehicle or by the time mechanism.

The existing requirement would not permit fare indications to advance when a flat rate (as permitted in some jurisdictions) was applied and then displayed on the primary indicating element. In addition, it was not clear whether or not this requirement applied to the display of charges assessed in addition to fare (e.g., extras and other additional charges) which are typically applied and displayed independently of vehicle movement or the lapse of time.

Background:

The proposal as shown below is a result of the discussions of the USNWG during its September 2012 through May 2013 meetings.

S.1.2. Advancement of Indicating Elements. – Except when a taximeter is being cleared, the **fare charges displayed on the** primary indicating and recording elements shall be susceptible of advancement only by:

- a). the movement of the vehicle;
- b). by the time mechanism;
- c). **a combination of both a) and b); or**
- d). **the entry of a monetary amount associated with a flat rate or negotiated flat rate where permitted.**

Advancement of the displayed indications for charges not based on the measurement of distance and time may occur through manual or automatic means.

(Amended 1988, **and 201X**)

During the USNWG meeting in July 2013, the work group concluded that the last sentence in this proposal needed to be revised. The discussions of USNWG at that time indicated that on a typical, stand-alone taximeter, charges that can be assessed during the transportation service provided, other than fare or extras will commonly be displayed on the taximeter’s display reserved for extras charges. It was therefore the consensus of the work group that extras and these types of additional charges must be permitted to advance independent of the movement of the vehicle and the lapse of time. The work group agreed that this proposal should therefore make it clear that any non-fare charges displayed may advance through “manual or automatic means.”

At the September 2013 USNWG meeting, the NIST Technical Advisor offered the following draft (with minor revision to the last sentence) to the work group for review and comment.

S.1.2. Advancement of Indicating Elements. – Except when a taximeter is being cleared, the **fare charges displayed on the** primary indicating and recording elements shall be susceptible of advancement only by:

- a). the movement of the vehicle;
- b). by the time mechanism;
- c). **a combination of both a) and b); or**
- d). **the entry of a monetary amount associated with a flat rate or negotiated flat rate where permitted.**

Advancement of the indications for fees, other than fare charges may occur through manual or automatic means.

(Amended 1988, **and 201X**)

Discussion:

The work group agreed that the most recent change was an improvement although, some members stated that the use of the word “fees” in the final sentence of the draft should be changed to “charges.” The term “charges” was preferred by the work group believing that it is a more generic description for various additional costs associated with a transaction.

Conclusion:

A poll taken at the USNWG's September 2013 meeting to gauge the support of the work group for the changes shown above indicated that all members would agree to these changes provided that the wording change from "fees" to "charges" in the last sentence was made.

This change will be incorporated into the draft proposal and offered to the USNWG at its next meeting for a final review. If the work group indicates its support for the amendment, the proposal will be submitted for consideration as an amendment to the HB44 Taximeters Code.

II. New Items**A. Proposal to amend paragraph A.1. General**

This proposed amendment shown below was developed during a meeting conducted in August 2011 and is derived from language found in the international standard, OIML R21 (*Taximeters*).

A.1. General. – This code applies to taximeters; that is, to devices that automatically calculates at a predetermined rate or rates and indicate the charge for hire of a vehicle. **These calculations are based on time and distance measuring devices located on or in the vehicle.**

(Amended 20XX)

Background:

A fundamental effort to harmonize U.S. and international standards is incorporated as an element in the USNWG's charter. The basis of the proposed new language shown above can be found in clause **1.2 Principle of operation** (excerpt shown below) in OIML R21 (2007 edition).

1.2 Principle of operation

A distance measurement transducer (2.2.4) installed in the taxi provides the taximeter with distance information. The taximeter receives the output signal(s) from the distance measurement transducer and the time measuring ...

This excerpt from OIML R21 states that the transducer supplying the taximeter with distance information is installed in the taxi. Traditional type taximeter systems receive a signal from a transducer (vehicle speed sensor) or more recently from the vehicles computer control module through the "on board diagnostic" (OBD) connection. Both of these sources are installed as integral components on the vehicle.

In recent years, the use of the Global Positioning Satellite (GPS) system has also been considered as a possible source of distance/time information that could be used to calculate vehicle-for-hire fares. Addressing this evolving technology, the USNWG agreed in general during its September 2012 meeting that the NIST Handbook 44 Taximeters Code should not include any specifications or requirements which would exclude the use of distance and time measurements based on the GPS system. The work group agreed that if the measurements obtained from GPS are found to be appropriate for commercial use, then these measurements should be permitted to be used in the calculation of fare charges in the vehicle-for-hire industry.

With regard to the language used in the OIML Recommendation shown above, it is obvious that GPS (as a system) would not be installed entirely within a taxi however, the receiver as a GPS system component could be. If the terms of this proposed amendment would be met by having a GPS receiver installed in the vehicle, an interpretation can then be made that the HB44 Taximeters Code would apply to taximeters that receive time and distance data from the GPS system.

The possible adoption of this proposed change however, could potentially preclude some other types of equipment from the HB44 Taximeters Code. While the use of GPS based measurements by a taximeter might be viewed as a viable alternative to more traditional taximeter systems, other services in use today and the equipment involved in these services may not be.

An example of this would be the use of a mobile (smart) telephone enabled with GPS. These devices are reportedly being used by some transportation service providers to receive time and distance information from the GPS system and then calculate a fare for transportation service provided. This type of "virtual" taximeter system has been found by regulatory officials in those jurisdictions to be actively used in select areas of the U.S. In this type of system, the driver of the for-hire vehicle is issued a mobile "smart" telephone with GPS enabled as a feature on the telephone. This device is provided to the driver by the company providing the transportation service and receives distance measurements from the GPS system that will then be used to calculate fare charges through the "smart" phone.

The current draft of the proposed amendment does not clearly specify that the measurement device must be installed in the vehicle, only that it be located on or in the vehicle. Some members of the USNWG have stated that the portability of a device such as a mobile telephone presents a level of concern regarding the security (of the metrological features) of that device. If the proposal language is interpreted in such a way that would require the time and distance measuring device to be *installed* in a vehicle, a conventional mobile telephone would not likely be considered to be a device meeting this requirement.

Discussion:

During the USNWG's meeting in September 2013, the NIST Technical Advisor asked the work group to consider the following points relating to this proposal.

- If the time/distance measuring transducer is required to be installed in the vehicle, does the installation of a GPS receiver in or on the vehicle satisfy this condition?
- What security related issues become concerns when a component that imparts metrological effects on a transaction is portable and can be readily carried by an operator? Would the potential of having this type of device easily swapped for another similar device create any concerns?

There was general discussion among the USNWG regarding the use of GPS and the viability of that system to perform within standards that currently exist and are applied to more traditional types of taximeters. The work group generally accepted that the GPS system used for this purpose would be considered simply as an alternative source of distance measurement data and that the Taximeters Code should be flexible enough in its application to include taximeters/systems that obtain the measurement data through GPS. The work group also agreed that if and when GPS is used to supply commercial distance measurements, those measurements should be held to the same accuracy requirements established in the HB44 Taximeters Code.

With regard to the language used in the proposed changes to paragraph A.1., Mr. Phillip Steiner commented that while current standards allow a taximeter to be installed (using “slide-mounted brackets”) in a way that allows for easy removal of the taximeter from the vehicle, the transducer (either the vehicle speed sensor or OBD) is permanently installed in the vehicle. He further stated that wording used in this proposal should state that the transducer used for distance measurement be permanently installed in or on the vehicle.

The work group was asked to comment on aspects of security concerns over the use of a device (such as a mobile telephone) that would not typically be found to be permanently installed in a vehicle. The NIST Technical Advisor also asked the group for their thoughts and comments on the interpretation of the word “installed” and whether the use of a quick-release type of mount (such as a “cradle”) with a mobile telephone would satisfy any requirement that the device be *installed* in the vehicle.

Mr. Steiner commented that the use of the GPS system in association with taximeters should be evaluated using the same basic criteria for the security of metrological features as any other commercial device, whether the provision for sealing those features is accomplished by physical or electronic means. He suggested however, that there will likely be a need to develop procedures to establish compliance with the existing requirements for security of the GPS system. He also added that establishing compliance with security requirements for devices such as mobile telephones or computing-type tablets could be problematic because these are general purpose type devices that use operating systems developed by sources that are not normally regulated under weights and measures laws.

Conclusions:

No additional comments were heard at this time and it was agreed that the USNWG would continue discussions and the further development of this item during subsequent meetings.

III. Additional Items:

The work group was asked to review and to provide any comments and feedback regarding the content of this summary following its circulation. This review will be needed to assist in verifying the accuracy of the contents prior to posting USNWG meeting summaries on a web page on the NIST OWM website that is expected to be launched in the near future.

Based on a poll taken during this September 18, 2013 meeting where the USNWG members were asked to select a date for its next meeting, it has been determined that the next meeting of the USNWG will be held on December 11, 2013.

IV. Attendance

Name	Affiliation	Email
John Barton	NIST Office of Weights and Measures	john.barton@nist.gov
Bill Fishman		bfishman@nycap.rr.com
Aileen Fox	NYC Taxi and Limousine Commission, Legal Department	foxa@tlc.nyc.gov
Angela Godwin	Sealer of Weights & Measures Ventura County	angela.godwin@ventura.org
Viktor Gruber	Inspector Weights and Measures City and County of San Francisco	viktor.gruber@sfdph.org
Paul Jordan	California Dept. of Food and Agric.	
Anthony Bong Lee, Jeff Croy, Denis Whitfill	County of Orange	Bong.lee@ocpw.ocgov.com
Talia Martin	Windels Marx Lane & Mittendorf, LLP	tmartin@windelsmarx.com
Kevin McDonald	City of Chicago	Kevin.McDonald@cityofchicago.org
Tim Raml	Applus Technologies	traml@aplustech.com
Phillip Steiner	Centrodyne, Inc.	psteiner@centrodyne.com
Stan Toy	Santa Clara Weights and Measures	Stan.toy@aem.sccgov.org
Keith Walsh	NYC Taxi and Limousine Commission, Legal Department	walshke@tlc.nyc.gov
Juana Williams	NIST Office of Weights and Measures	juana.williams@nist.gov