ANNEX IV – Guidance on the Unique Transaction ID (UTI)

Please read carefully

The Agency developed the Guidance on the Unique Transaction ID (UTI) and the excel file for the UTI generation in conjunction with its stakeholders following an intense consultation of the industry.

Market participants should bear in mind that it is their obligation to comply with REMIT and it is their obligation to make sure that the Agency receives the correct UTI in the correct format for their transactions as required by Commission Implementing Regulation (EU) No 1348/2014. This should be the unique identifier for a transaction (UTI) as assigned <u>by the organised market place of execution</u> or by the <u>two market participants in the case of bilateral contracts</u> to <u>match the two sides of a transaction</u>.

Whilst for executions at organised market places, the UTI is already defined by the organised market place, market participants have to agree which form of a UTI they will use before reporting any bilateral contract. This therefore includes determining the approach that they will use to define which entity generates the UTI.

Accordingly, the generation and usage of an agreed UTI for bilateral trades that take place outside an organised market place may be needed. The Agency has already made available guidance on the UTI in its Transaction Reporting User Manual (TRUM), but would like to facilitate the UTI generation for bilateral contracts as much as possible for the benefit of market participants. This is why the Agency has developed and made public an ACER algorithm which would enable market participants to generate the same UTI from the economic terms of the bilateral trade without any communication between the two market participants. Please note that it is <u>not</u> mandatory to use the Agency's UTI generator. It only aims at providing another possibility for the UTI generation for bilateral contracts.

For a few complex contracts this guidance and the UTI generator tool may need to be updated in the future. Where market participants feel that this guidance and the UTI generator tool provided by the Agency may not fully satisfy their needs, they should generate and agree on a UTI as indicated in the TRUM. It is important to stress that it is ultimately the market participants' responsibility to make sure that the Agency receives the correct UTI in the correct format for their transactions as required by Commission Implementing Regulation (EU) No 1348/2014.

The Agency aims at continuing its cooperation with the industry to update this guidance and the UTI generator tool as required.

If you have any question related to this document, please contact
transaction.reporting@acer.europa.eu

ACER's UTI generator tool

UTIs can be created in different ways. The Agency has tested a solution and believes it is simple and usable by the vast majority of reporting parties. This is based on using a hash function (BASE 64 SHA256) which allows creating exactly the same UTI value if the input data is the same.

The Agency is offering one solution only and it is up to market participants to implement this guidance according to their IT needs. The Agency's UTI generator is **based on an excel spreadsheet** which is available on the Agency's REMIT portal at https://www.acer-remit.eu/portal/data-submission.

The ACER algorithm is based on the concatenation of economic terms included in the contract and the standardization to 45 characters. The UTI generation works in two steps:

1) The relevant information is entered into a spreadsheet or any other application capable of running the required task, e.g. web GUI, java etc.; and

2) The relevant information is concatenated first, then "hashed" and thus an UTI is generated.

This process works identically for both reporting parties and it may make sense for market participants' IT departments to build the UTI generator into their local trading system enabling the UTI generation whenever they enter a trade. But this is up to the market participants.

The hash function takes an input text and transforms it into a data value of a given length (e.g. with a length of 45 characters).

Relevant fields to be taken into account for the generation of the UTI for the reporting of transactions with **Table 1** of the Implementing Acts are the following, please see the Transaction Reporting User Manual (TRUM) for further details:

Table 1

#	Field No	Field name	Value (example)
1	1	Buyer's ACER code	C0643778W.EU
2	4	Seller's ACER code	C06AG978W.EU
3	23	Contract Type	FW
4	24	Commodity	EL
5	26	Settlement	P
6	30	Date of the Trade (without time)	2014-11-21
7	35	Price	53.50000
8	37	Currency	EUR
9	40	Quantity/Volume	24.00000
10	42	Quantity Unit for field 40	MWh/h
11	48	Delivery Point or zone	10YCB-EUROPEU--8
12	49	Delivery Start Date	2015-01-01
13	50	Delivery End Date	2015-01-31
14	n/a	Progressive Number (for equal trades on the same date)	1
15	n/a	Concatenated values	C0643778W.EUC06AG978W.EUFWELP2014-11-2153.50000EUR24.00000MWh/h10YCB-EUROPEU--82015-01-012015-01-31
16	n/a	Hash of the concatenated values	o2O36tL2ijvmNsUKDU6U85NvyBGnhIcQGvvE959BjYIC
17	31	UTI	o2O36tL2ijvmNsUKDU6U85NvyBGnhIcQGvvE959BjY001

The input text comprises the data elements taken from the example Table 1 above. When data fields are concatenated in the right order as a string, the result is the following:

C0643778W.EUC06AG978W.EUFWELP2014-11-2153.50000EUR24.00000MWh/h10YCB-EUROPEU--82015-01-012015-01-31

The text above includes the key data of a trade. Once the input has been hashed, the result is the following:

o2O36tL2ijvmNsUKDU6U85NvyBGnhIcQGvvE959BjYIC

The output value of the hash function would be the following UTI:

o2O36tL2ijvmNsUKDU6U85NvyBGnhIcQGvvE959BjY001

This is independent of the party (buyer or seller) generating the UTI values since both parties using the same algorithm will generate matching UTIs independently and without the need of exchanging data. If only a minor modification is made to the input data, the output value would be completely different.

Sometimes some fields may not be available (e.g. the price for index trades) and they cannot be included in the UTI generation. However, two market participants that generate the UTI with the input provided by the data listed in table 1 above would nevertheless be able to create exactly the same UTI.

General remarks:

- All fields are treated as text fields, even though some of them are also numerical in their original format (e.g. Contract Date, Price, Quantity/Volume and Progressive Number).

- Spaces (blanks) are not permitted since a blank character is also a character that has an effect in the UTI generation.

1) **Relevant fields to be taken into account for the generation of the UTI for the reporting of transactions with Table 1 of the Implementing Acts. Please see the Transaction Reporting User Manual (TRUM) for further details.**

Items #1 & #2: Field (1) Buyer's ACER code and Field (4) Seller's ACER code:

The Agency would like to avoid any inconsistent interpretations or views which may arise from individual market participants' perspective in terms of who is a buyer.

Each contract has unambiguously defined a buyer (the one who accepts a commodity or an instrument) and a seller (the one who gives up a commodity or an instrument). Therefore, Field (1) always requires the buyer's ACER code whereas Field (2) always requires the seller's ACER code irrespective of who (buyer or seller) is reporting. Please note that the code has to be an ACER code and no other code (such as EIC, LEI, BIC...) is allowed.

The buyer/seller logic is available in the TRUM, please see Field No (11).

Any deviations from the above will result in the generation of different UTIs which would therefore be invalid.

Item #3: Field (23) Contract Type:

The range of accepted values for the Contract Type is available in the TRUM.

Item #4: Field (24) Commodity:

The range of accepted values for the Commodity is available in the TRUM.

Item #5: Field (26) Settlement:

The range of accepted values for the Settlement is available in the TRUM.

Item #6: Field (30) Date of the trade (without time):

This field should be populated in ISO 8601 standard, i.e. YYYY-MM-DD. No time (hours, minutes, seconds etc.) should be added, the field is strictly a date type field.

Item #7: Field (35) Price:

When a price of the trade/contract is known at the time of UTI generation, it should be populated with five (5) decimal digits, irrespective of how it is stored in the market participant's individual systems.

When the price of the trade/contract is not known at the time of the UTI generation (e.g. due to a price index), the field should be left blank. Please note that Index price differentials are reported in Field (36) Index Value, not in Field (35) Price.

Item #8: Field (37) Currency:

The range of accepted values for the Currency is available in the TRUM. However, it is important to stress that both market participants (MPs) should use exactly the same currency for the same trade (for instance, if MP1 uses EUR and a counterparty MP2 uses EUX for the same trade, the resulting UTIs will be different and therefore invalid).

Accordingly, reporting parties should use the currency used at the time of the trade execution/agreement rather than the one that it is stored in the market participants' individual systems.

For example, if two market participants trade UK NBP gas, they most like trade it in pence per therm. In this case the currency to be used is GBX and not GBP. Or, if two market participants trade German electricity, they most like trade it in Euro per MWh. In this case the currency to be used is EUR and not EUX (Euro cent).

Item #9: Field (40) Quantity/Volume:

When a Quantity/Volume (capacity) of the trade/contract is known at the time of the UTI generation, it should be populated with five (5) decimal digits, irrespective of how it is stored in the market participants' individual system.

When Quantity/Volume is not the same for all the delivery periods, e.g. a profile contract, this field should be left blank. The same applies to Field (42) Quantity Unit.

Item #10: Field (42) Quantity Unit for field 40:

The range of accepted values for the Quantity (capacity) Unit is available in the TRUM. However, it is important to stress that both market participants should use exactly the same Quantity Unit used at the time of the trade execution/agreement rather than the one that it is stored in the market participants' individual systems.

For example, if two market participants trade UK NBP gas, they most like trade in therm. In this case the quantity unit to be used is therm/day and not MWh/h or any other units. Or, if two market participant trade German electricity, they most likely trade it in MWh/h. In this case the Quantity Unit to be used is MWh/h and not KWh/h.

In addition, the UTI generator tool will not be able to accept certain Unit types that may be ambiguous, e.g. MW instead of MWh/h, which have the same meaning. Only a value comprised in the list of accepted values can be used in the generator tool.

Item #11: Field (48) Delivery Point or zone:

This field should be populated with the EIC (Y) code (or EIC W or Z codes). In case there are more than one delivery point or area, market participants should use the first code in alphabetical order (A-Z).

Items #12 and #13: Field (49) and (50) Delivery Start Date and Delivery End Date:

In the same way as item #6, items #12 and #13 should be populated in the ISO 8601 standard, i.e. YYYY-MM-DD. There should be no time (hours, minutes, seconds etc.) be added, the fields are strictly date type fields.

Item #14: Progressive Number for equal trades on the same date:

For trades executed at the same day having exactly the same characteristics (i.e. items from 1 to 13) it does not matter which one obtains which progressive number as long as those numbers are different and consecutive without any gaps.

Technical note on the BASE64SHA256 function

1. Transform the text to be hashed in a buffer of byte.

2. Apply the sha256 function (the sha256 function produces as result a buffer of 256 bits, normally every 8bits corresponds to 1 ASCII character, but if HEXADECIMAL code is used, 4 bits correspond to a character).

3. Encode the result in BASE64 (in BASE64 every 6bit correspond to a character so 256/6 is more or less 42 characters, the other characters have been added to manage duplications).

The APIs used are the ones provided by .NET framework.

2) Relevant fields to be taken into account for the generation of the Contract ID for the reporting of transactions with Table 2 of the Implementing Acts. Please see the Transaction Reporting User Manual (TRUM) for further details.

Table 2

#	Field No	Field name	Value (example)
1	1	**Buyer's ACER code**	C0643778W.EU
2	3	**Seller's ACER code**	C06AG978W.EU
3	13	**Contract Type**	FW
4	14	**Commodity**	EL
5	31	**Settlement**	P
6	12	**Contract Date (without time)**	2014-11-21
7	n/a	n/a	n/a
8	n/a	n/a	n/a
9	n/a	n/a	n/a
10	n/a	n/a	n/a
11	41	**Delivery Point or zone**	10YCB-EUROPEU--3
12	42	**Delivery Start Date**	2015-01-01
13	53	**Delivery End Date**	2015-01-31
14	n/a	**Progressive Number (for equal trades on the same date)**	1
15	n/a	**Concatenated values**	C0643778W.EUC06AG978W.EUFWELP2014-11-2110YCB-EUROPEU--32015-01-012015-01-31
16	n/a	**Hash of the concatenated values**	Zxo73Dzic7nHFDtwczkWuIHOCCcmdtCPNDGILm60OA0C
17	11	**UTI**	Zxo73Dzic7nHFDtwczkWuIHOCCcmdtCPNDGILm60OA001

Items #1 & #2: Field (1) Buyer's ACER code and Field (3) Seller's ACER code:

The Agency would like to avoid any different interpretations or views which may arise from individual market participants' perspective in terms of who is a buyer or who is a seller and/or aggressor or initiator.

Each contract has unambiguously defined a buyer (the one who accepts a commodity or an instrument) and a seller (the one who gives up a commodity or an instrument). Therefore field 1 always requires the buyer's ACER code whereas field 2 always requires the seller's ACER code irrespective of who (buyer or seller) is reporting. Please note that the code has to be an ACER code and no other code (such as EIC, LEI, BIC...) is allowed.

Any deviations from the above might result in generation of different UTIs.

Item #3: Field (13) Contract Type:

The range of accepted values for the Contract Type is available in the TRUM.

Item #4: Field (14) Commodity:

The range of accepted values for the Commodity is available in the TRUM.

Item #5: Field (31) Settlement:

The range of accepted values for the Settlement is available in the TRUM.

Item #6: Field (12) Contract date (without time):

This field should be populated in ISO 8601 standard, i.e. YYYY-MM-DD. No time (hours, minutes, seconds etc.) should be added, the field is strictly a date type field.

Items #7 to #10:

Blank

Item #11: Field (41) Delivery Point or zone:

This field should be populated with the EIC (Y) code (or EIC W or Z codes). In case there are more than one value for delivery point or area, market participants should use the first code in alphabetical order.

Items #12 and #13: Field (42) and (43) Delivery Start Date and Delivery End Date:

In the same way as item #6, items #12 and #13 should be populated in ISO 8601 standard, i.e. YYYY-MM-DD. No time (hours, minutes, seconds etc.) should be added, the fields are strictly date type fields.

Item #14: Progressive Number for equal trades on the same date:

For trades executed on the same day having exactly the same characteristics (i.e. items from 1 to 13) it does not matter which one obtains which progressive number as long as those numbers are different and consecutive without any gaps.

Technical note on the BASE64SHA256 function

4. Transform the text to be hashed in a buffer of byte.

5. Apply the sha256 function (the sha256 function produces as result a buffer of 256 bits, normally every 8bits corresponds to 1 ASCII character, but if HEXADECIMAL code is used, 4 bits correspond to a character).

6. Encode the result in BASE64 (in BASE64 every 6bit correspond to a character so 256/6 is more or less 42 characters, the other characters have been added to manage duplications).

The APIs used are the ones provided by .NET framework.