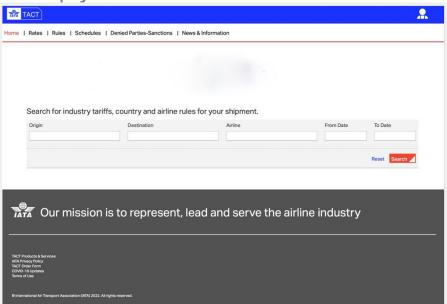
## Appendices

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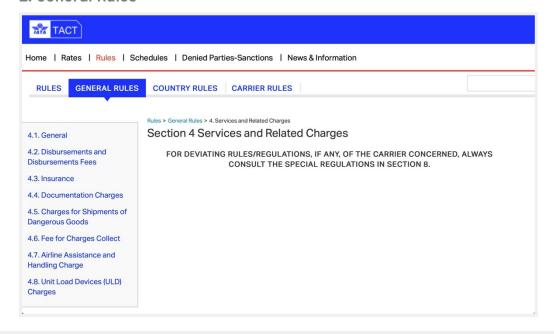
## **Appendix 1 - Industry Documentation**

#### **Extracts from IATA TACT Manual:**

1. Cover page

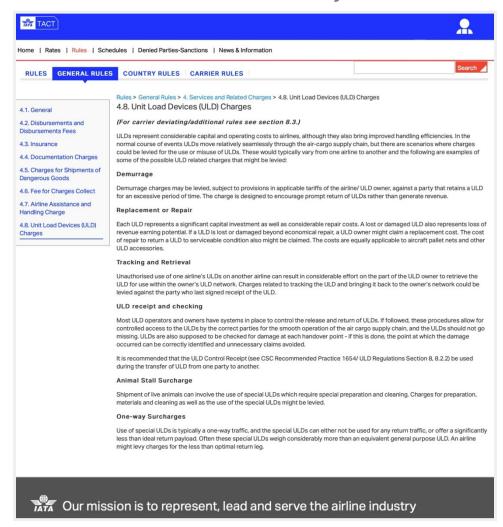


#### 2. General Rules





#### 3. Section 4.8 Unit Load Devices (ULD) Charges



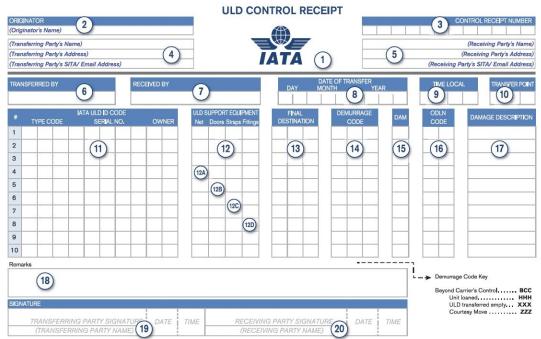
## 4. List of TACT Participating Airlines

NEWS &	CARGO BORDER MANAGEMENT	SOURCES LIST OF PARTICIPATING	EDITORIAL
NFORMATION	BULLETINS		UPDATES
ws & Information > L	ist of Participating Airlines		
st of Participati	ng Airlines		
or or rai cio,paci			
	AER LINGUS CARGO	ICELANDAIR	
	AEROFLOT RUSSIAN AIRLINES	IRAN AIR	
	AEROLINEAS ARGENTINAS	JAPAN AIRLINES CO., LTD.	
	AIR ALGERIE	KALITTA AIR, LLC	
	AIR BOTSWANA	KELOWNA FLIGHTCRAFT AIR CHARTER LTD. C/O/B AS KF CARGO	
	AIR CALEDONIE INTERNATIONA		
	AIR CANADA	KLM ROYAL DUTCH AIRLINES	
	AIR CHINA LTD.	KOREAN AIR LINES CO. LTD.	
	AIR FRANCE	KUWAIT AIRWAYS	
	AIR GREENLAND	LATAM AIRLINES GROUP S.A. d/b/a LAN AIRLINES	
	AIR INDIA	LOT-POLISH AIRLINES	
	AIR KORYO	LUFTHANSA CARGO A.G.	
	AIR MALTA	LUXAIR	
	AIR MAURITIUS	MALAYSIA AIRLINES	
	AIR NAMIBIA	MEA-MIDDLE EAST AIRLINES AIRLIBAN	
	AIR NEW ZEALAND LTD.	MIAT - MONGOLIAN AIRLINES	
	AIR NIUGINI	NEPAL AIRLINES CORP.	
	AIR SAINT PIERRE	NIPPON CARGO AIRLINES CO., LTD.	
	AIR SERBIA	PAKISTAN INTERNATIONAL AIRLINES	
	AIR VANUATU (OPERATIONS) LT		
	AIRBRIDGECARGO AIRLINES	POLAR AIR CARGO WORLDWIDE	
	ALITALIA - SOCIETÀ AEREA ITAL ALL NIPPON AIRWAYS CO., LTD.		
	AMERICAN AIRLINES	ROYAL AIR MAROC	
	ASIANA AIRLINES, INC.	ROYAL BRUNEI AIRLINES SDN BHD	
	ASTRAL AVIATION LTD.	ROYAL JORDANIAN	
	ATLAS AIR, INC.	SAS-SCANDINAVIAN AIRLINES SYSTEM	
	AVIANCA COSTA RICA S.A.	SAUDIA-SAUDI ARABIAN AIRLINES	
	BRITISH AIRWAYS	SOUTH AFRICAN AIRWAYS	
	CARGOLUX AIRLINES INTERNAT S.A.		
	CATHAY PACIFIC AIRWAYS LTD.		
	CHINA AIRLINES, LTD.	SRI LANKAN AIRLINES LTD.	
	CHINA EASTERN AIRLINES	SWISS INTERNATIONAL AIR LINES LTD.	
	CHINA SOUTHERN AIRLINES CO		
	CROATIA AIRLINES	TAAG-ANGOLA AIRLINES	
	CZECH AIRLINES	TACA INTERNATIONAL AIRLINES	
	DELTA AIR LINES, INC.	TACV CABO VERDE AIRLINES	
	EGYPTAIR	TAP PORTUGAL	
	EL AL ISRAEL AIRLINES	TAROM	
	EMIRATES ETHIOPIAN AIRLINES	THAI AIRWAYS INTERNATIONAL	
		TRANS AMERICAN AIRLINES S.A. TACA PERU	
	ETIHAD AIRWAYS	TRANSPORTES AEREOS MERCANTILES PANAMERICANOS S.A. "TAMPA AIRLINES"	
	EVA AIRWAYS CORPORATION	TUNISAIR	
	FEDERAL EXPRESS CORPORAT	TION TURKISH AIRLINES INC.	
	FINNAIR O.Y.J.	UNITED AIRLINES	
	GARUDA INDONESIA	VIETNAM AIRLINES	
	GULF AIR	VIRGIN ATLANTIC AIRWAYS LTD.	
	IBERIA		



### **Examples of ULD Control Receipts:**

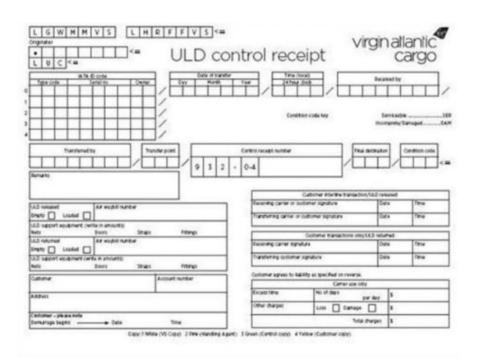
IATA Format UCR (RP 1654)

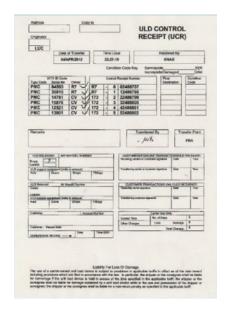


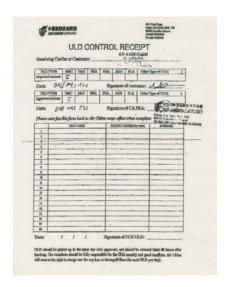
Parties shall ensure that the unit load device (ULD) be handled in accordance with IATA ULD Regulations (ULDR)/ carrier's instructions/ owner's instructions. The use of a ULD is subject to provisions in applicable tariffs in effect as of the date hereof including provisions which are filed in accordance with the law. In particular, the Receiving Party shall be liable for demurrage if the ULD is held in excess of the time specified in the applicable tariff, the Receiving Party shall be liable for a non-return penalty as specified in the applicable tariff.

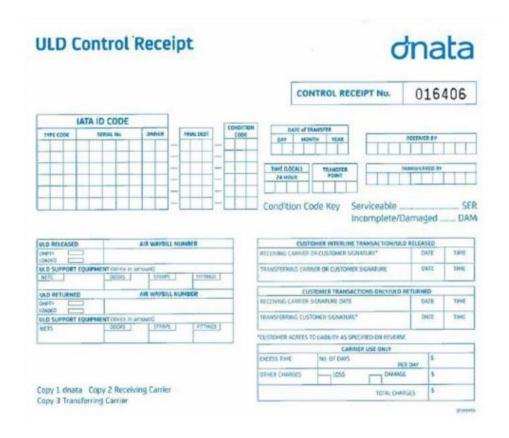
THE PARTY IN POSSESSION OF THE ULD SHALL ASSUME FULL RESPONSIBILITY TO THE ULD OWNER FOR THE AIRWORTHINESS OF THE ULD.

## <u>Appendix 2 - Examples of various ULD Control Receipt formats used</u> <u>by different organizations</u>









Oste and Time					1	Carrier BA			
(Receiving Agent or Airline) KUN		Instructions				(Anzahl und Art)			
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1	PMG	770961	BA		15.				
4	PMG	78642 V	BA		14				
	PMC	20667 4	BA		15.				
	PMG	2976/ V	BA		15.				
T.	PMC	770444	/BA		17				
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## <u>Appendix 3 - Why are airlines reluctant to charge demurrage</u> for their ULD?

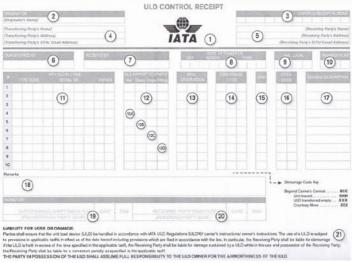
ULD CARE conducted research in Q4 2021 with air cargo industry stakeholders. When asked why only a small number make any attempt to charge demurrage, airline representatives noted a number of reasons that were factually inaccurate. We have rephrased these issues as questions below.

Is some form of digital documentation/process a pre requisite for recording the transfer of freight assets and charging the resulting demurrage?

At present, both maritime and air cargo industries use remarkably similar paper-based documentation to record the transfer of the freight asset between two parties. In maritime, this activity is known as an Equipment Interchange Receipt (EIR)

In the air cargo industry, the IATA standard ULD Control Receipt (RP 1654) performs the same function.





At the present time, neither industry appears to have established digitization of this process, relying instead on paper forms. Yet this does not appear to be an impediment to the maritime industry when it comes to charging demurrage for the late return of their equipment.

While the use of digital devices to record the transfer of ULDs between parties is desirable, the lack of such systems is not an impediment to the application of demurrage and detention in the ocean freight industry and is possible for ULDs.

## Is some type of electronic identification of each item of freight equipment necessary for the charging of demurrage?

When it comes to electronic equipment tracking, the air cargo industry is ahead of the maritime sector. During the past five years, a number of airlines have embarked on equipping the ULDs with digital identification devices that communicate their location through various means. On the other hand, the Maritime industry has made no such steps, with the exception of some special-purpose equipment. This may be due to the fact that there are approximately 25 million sea freight containers in use, compared to about 1 million ULD.

While some kind of electronic "tagging" can certainly enhance the recording of transferred ULDs, the lack of any such tagging in the ocean freight industry demonstrates that such tagging is not a pre requisite for charging demurrage and detention.

## Is some form of legal agreement document required for the owner of the freight asset to be able to charge for demurrage?

The IATA ULD Control Receipt, RP 1654, contains the wording, "In particular the Receiving Party shall be liable for demurrage if the ULD is held in excess of the time specified in the applicable tariff." Furthermore the IATA TACT manual contains the wording "Demurrage charges may be levied subject to applicable tariffs of the airline/ULD owner, against a party that retains a ULD for an excessive period of time." The ocean freight industry has similar 'small print' in their equipment release documentation.

There is no appreciable difference between Ocean and Air Cargo equipment in regard to a documentary basis for charging demurage and detention and the content of IATA TACT 4.8 is a basis for charging in the airline industry.

## Are there physical characteristics between air and maritime equipment that requires a different approach to demurrage?

Ocean freight containers are, in general, much larger than a typical air cargo pallet or container. However, it is not clear how this might make prompt return of the equipment harder or easier between the two industries. It is clear that empty air cargo pallets can easily be stacked enabling the carriage of probably 50 units on a medium sized truck, meaning that there is no physical impediment to returning the equipment.

While ocean and air freight equipment have significantly different physical characteristics, these do not justify the different approach to the charging of demurrage and detention.

## How does the use of leased freight equipment impact the charging of demurrage?

There seems to be no direct equivalent in the maritime industry to the "asset management" operations in the air cargo industry, e.g. ACL, Jettainer and Unilode. However, at the end of the day, someone has to pay for inefficiency. Even if the airline has outsourced its ULD operations to a third party, that doesn't mean that shippers can delay return of the ULD. Ultimately, this will add to the cost of operation for the airline in loss of utilization, and the cost of additional ULDs.

Regardless of any "behind the scenes" ownership/management arrangements, leased equipment is not a reason for ignoring the necessity of demurrage and detention for ULD.



## What might be the administration or management constraints to charging demurrage?

For any demurrage collection system to operate effectively, it will need to be highly automated, providing visibility and certainty to all parties, as well as having automated invoicing and payment systems. It would appear that the Maritime industry has never implemented a centralized platform and relies on individual invoicing by each shipping company, which is a source of concern to the forwarders who often receive invoices sometime after the event. It is noteworthy that the US FMC has just launched hearings into the practices of invoicing demurrage and detention in the maritime industry.

ULD CARE's 50 years' experience in running the IULDUG system gives it a unique competence in providing such a platform.

## Would airlines put at risk their business relationship with their forwarders by charging demurrage.

There is no evidence that the Maritime industry is any less competitive than the air cargo industry. There have been no shortages of bankruptcies and consolidations in the Maritime industry over the past few years. The current surge in demand has propelled shipping line profits to an all-time high, but that has not been the story for many years. As far as demurrage is concerned, this is a fully accepted practice in the Maritime industry. No one likes having to pay demurrage, but doing so does not put individual shipping lines at a competitive disadvantage as this is a universal, if at times unpopular, practice.

While it is possible, but challenging for individual airlines to attempt to impose these charges, a far better approach will be an industry-wide implementation supported by the relevant trade associations.

#### If airlines were to start charging for demurrage on ULD, would there be claims from the forwarders that this was simply a revenue raising exercise?

There is no doubt that such claims would be made and indeed they have already been made in regards to the Maritime industry. The goal is not to charge anyone fees. The goal is to return the equipment at or before the agreed-upon free-day time period. If the equipment is not returned as agreed, then a levy for the failure of the equipment's return will allow the asset owner to recoup some of the lost utilization. It would be essential that any kind of charging system be transparent and efficient, enabling those in possession of an airline's equipment to actually return it on time – that is fair and a win for all parties.



# <u>Appendix 4 - Delivering a best-in-class demurrage system for the global air cargo industry</u>

In this appendix we will explore what it will take to deliver a demurrage platform that delivers fair and open treatment to all participants in the global air cargo activity.

As has been pointed out earlier in this paper, ULD CARE has in the order of 50 years' experience of successfully delivering a demurrage platform to the airline community.

### What factors contribute to the success of the ULD CARE IULDUG system?

The current IULDUG system is the result of a number of years of collaborative work between the airline community to develop a system that meets the needs of all the parties. It was not perfect when first launched in the 1970s and it took some years to fine tune and enhance the system. That was the case again when it moved to the new platform in the late 2000's to take advantage of the new technologies of that era. Key strengths of the current IULDUG system are that:

- Data transparency is key. When all parties to a particular transaction can see exactly what has transpired this greatly removes the
  possibility of later dispute. The IULDUG provides exactly this level of transparency, every transaction is available in real time on
  screen.
- 2. Built in dispute resolution is also very important, of course disputes can be dealt with off-line through emails but this does not maintain a record, the IULDUG system has a built in "Change Request" through which either party to the transaction can request a change to a posted transaction and if agreed by the other party the change is automatically carried out.
- 3. "No surprises" when it comes to billing, the IULDUG system publishes a monthly "Pending Demurrage Payable" report which gives the participant 30 days to enter into a discussion with the other party regarding the pending charges.
- 4. Trust in the system is essential. The IULDUG is based on the procedures and practices laid down in the ULD control manual, and will only accept transaction submissions entered in the correct format.

#### Shortcomings of the current IULDUG system

- 1. The current system has rather limited interconnectivity. Most reports can be exported in .pdf or .xls format, but the system lacks the ability to interact directly with other systems through API's. With modern IT, any new system would be built to facilitate direct interconnectivity with other systems.
- 2. Data capture at the point of transfer is also important. The present reliance on paper based ULD Control Receipts and manual entry into the IULDUG system is open to delays and errors. Recognising this, ULD CARE has, in parallel with plans for the development of a new system, supported the development of an app based UCR, which replicates the current paper based standard. Screen shots of this app can be found in Appendix 6.



#### How would an expanded demurrage platform look?

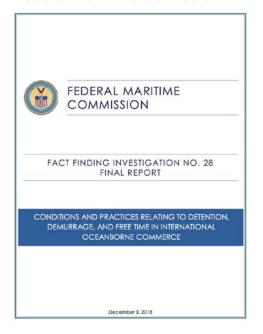
- 1. Such a system must incorporate all the existing features of the existing IULDUG platform.
- 2. A full set of rules, based on the proven framework of the ULD Control Manual, would be made public for the entire industry to follow.
- 3. A reasonable "free period" would be established. The current IULDUG standard is 5 days, which would seem reasonable given the urgent nature of air cargo. There may be some circumstances in which an extended period could be necessary. It would not be difficult to build the capability into a future system to enable the ULD owner to grant such requests. The existing IULDUG system does cater to such circumstances through its special code provision.
- 4. Any new system should contain the capability to provide credits for early return of equipment, in addition to debits for late return. This would enable shippers to achieve cash-neutral positions and emphasising that the key purpose is the return of the equipment not the generation of revenue.
- 5. Given the global nature of air cargo, such a system would need to be fully functional across geographical locations and time zones. As the current system already operates in this environment, this would not present any difficulty.
- 6. As pointed out above, the current system does not integrate with other IT systems, i.e. a payment platform. Years ago, the IULDUG community made the decision not to integrate with the IATA clearinghouse which means that the invoicing and collection process is not necessarily very efficient. It would clearly be important to integrate the future demurrage platform with any and all industry payment platforms, including the IATA Clearinghouse.

Building on its extensive experience, ULD CARE can make the best use of current and evolving technology. It can create a world class demurrage platform and its associated supporting functions.



## <u>Appendix 5 - Excerpts from various industry materials</u> <u>on the subject of demurrage:</u>

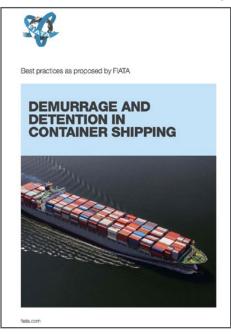
#### 1. Federal Maritime Comission



- Demurrage and detention are valuable charges when applied in ways that incentivize cargo interests to move cargo promptly from ports and marine terminals;
- All international supply chain actors could benefit from transparent, consistent, and reasonable demurrage and detention practices, which would improve throughput velocity at U.S. ports, allow for more efficient use of business assets, and result in administrative savings; and

https://www2.fmc.gov/readingroom/docs/FF%20No.%2028/FF-28\_FR.pdf/

#### 2. FIATA publication on Demurrage and Detention



#### **EXECUTIVE SUMMARY**

Demurrage and detention charges are an important tool for shipping lines to ensure the efficient use of their container stock which represents a substantial investment. For shipping lines, it is essential to turn around their containers as fast as possible, consequently merchants who use containers for longer periods should be discouraged from this practice.

https://fiata.org/fileadmin/user\_upload/documents/recent\_views/MTI/FIATA\_ World\_Congress\_2018 - Presentation\_New\_Working\_Group\_Sea\_-Best\_Practice\_ Guide\_on\_demurrage\_and\_detention-.pdf

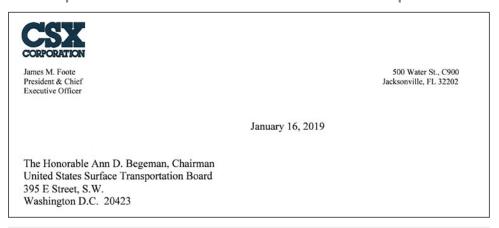
### 3. Surface Transportation Board



Demurrage is a charge that both compensates rail carriers for the expense incurred when rail cars are detained beyond a specified period of time (i.e., "free time") for

https://www.stb.gov/reports-data/demurrage-accessorial-charges

4. CXS Corporation communication to US Surface Transportation Board regarding demurrage.



The charges have a long history within the rail industry, and you'll see them in other transportation sectors as well, including trucking companies, port terminals and steamship lines. In all cases, their purpose is to further the efficient management of assets and promote a fluid transportation pipeline. While CSX has always had these tariff items, prior to implementing scheduled railroading, the company didn't consistently update and enforce them. In my view, that's not an acceptable way to run a railroad. Through 2017, and part of 2018, we transitioned our customers to a more customary and regular expectation that the tariff items were applicable. We also communicated that the tariff items promoted a faster, more efficient service product to the ultimate benefit of all customers on the network.

https://www.stb.gov/wp-content/uploads/CSX\_Response\_to\_Chairman\_Begeman\_relating\_to\_ Demurrage\_and\_Accessorial\_Charges\_January\_16\_2019.pdf



#### 5. Federal Maritime Commission

#### FEDERAL MARITIME COMMISSION

46 CFR Subchapter B

[Docket No. 22-04]

RIN: 3072-AC90

**Demurrage and Detention Billing Requirements** 

**SUMMARY:** The Federal Maritime Commission (Commission) is issuing this Advance Notice of Proposed Rulemaking (ANPRM) to seek comment on whether the Commission should require common carriers and marine terminal operators to include certain minimum information on or with demurrage and detention billings. Also, the Commission is interested in receiving comments on whether it should require common carriers and marine terminal operators to adhere to certain practices regarding the timing of demurrage and detention billings. These changes were recommended by the Fact Finding Officer in Commission Fact Finding 29: International Ocean Transportation Supply Chain Engagement.

https://www2.fmc.gov/ReadingRoom/docs/22-04/22-04\_anprm\_dd\_billing.pdf/

## Appendix 6 - Screen Shots of App based paperless UCR (Beta version)





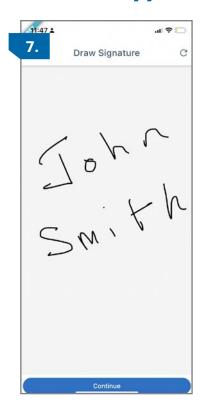


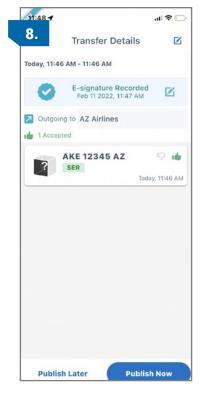


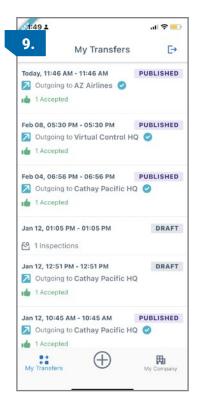




## Screen Shots of App based paperless UCR (Beta version) - Continued



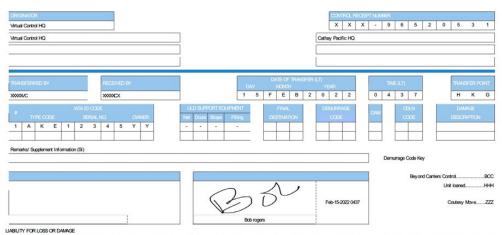




#### **Screen Index:**

- 1. Enter ULD ID Code via camera capture or manual entry.
- 2. Enter ULD Condition (SER, DAM, UNS) and number of accessories eq nets, straps etc.
- 3. Enter transfer mode, receiving in or transferring out.
- 4. Select or enter name of other party to the transaction
- 5. Confirmation screen
- 6. Enter name of party who will sign
- 7. Signature on screen
- 8. Summary prior to publishing
- 9. Listing of "My Transfers"

### Example of UCR created on app



Parties shall ensure that the unit load device (ULD) be handed in accordance with the IATA ULD Regulations (ULDR) carrier's instructions. The use of a ULD is subject to provisions in applicable tariffs in effect as of the date hereof including provisions which are filed in accordance with the last in particular the Receiving Party shall be lasted for dammange in the ULD is had in excess of the time specified in the applicable tariff. The Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party, the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party, the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party, the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party shall be lasted for dammange sustained by the ULD while in the use and possession of the Receiving Party shall be lasted for dammange shall be used to the use of the use of the ULD while in the use of the use of

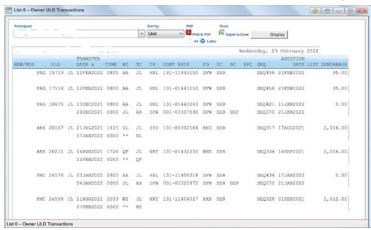
THE PARTY IN POSSESION OF THE ULD SHALL ASSUME FULL RESPONSIBILITY TO THE ULD OWNER FOR THE AIRWORTHINESS OF THE ULD.

## <u>Appendix 7- Sample Screen Shots of the IULDUG system</u>

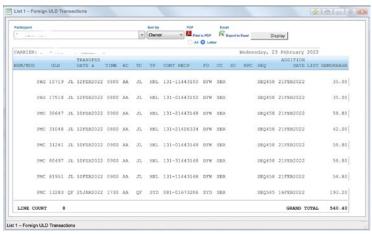
Main Screen



List of airlines own ULD that are in the custody of other airlines:

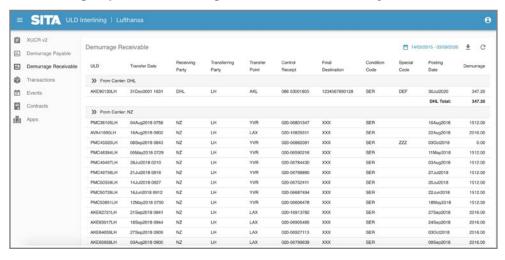


List of other airlines ULD that are in an airline's own custody



## <u>Appendix 8- Screenshots of Blockchain POC carried out</u> <u>by ULD CARE and SITA in 2020/21</u>

Unit listing report (Demurrage receivable summary)



#### Transaction entry screen

