

# USS HartLink Contributions Interface Specification



**For** the future

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# **1 Introduction**

## **1.1 Purpose**

This document defines the format and content for the USS HartLink Contributions interface file.

## **1.2 Target Audience**

This document has been written for the following key purposes: -

1. To allow counterparties to build data files consistent with the necessary structure and content required by this service.
2. To allow counterparties to understand the structure and content of data files provided by this service.

## **1.3 Parties**

Relevant parties to this document are Capita Employee Benefits, who are the owners of the HartLink service, USS and contributing Institutions and their third party payroll providers where applicable.

## **1.4 Related Documentation**

This document should be read in conjunction with the sample file which is also embedded within this document.

## **1.5 Assumptions**

- All payrolls to be processed periodically.
- One contribution file to be submitted each period.
- All files are submitted by Institutions and not by third parties.
- File submission constitutes authority to transact investments.
- All files will be delivered by Secure Transfer Utility (STU).
- All files will be submitted through the institution portal by authorised institution representatives.

## 2 Interface Detail

### 2.1 File Structure

#### 2.1.1 File Format

Files will be formatted as single record per line, variable width, our preferred delimiter is Tab (for accuracy of text fields where comma's may exist) although .CSV or Microsoft Excel is acceptable.

For manually generated files the template will contain instructions for populating, header lines containing human readable column labels, followed by the data.

Unknown and nominally unknown dates will be blank. Blank data values may or may not contain spaces.

System character set is ascii32, if you use a Unicode character set then any non-Latin text characters will not display correctly and need to be identified separately.

#### 2.1.2 File Naming Conventions

CONT<ICode><period end date><suffix>.tdf where ICode is the relevant Institution Code, Period End Date is the period end date of the payroll in the format YYYYMMDD and suffix is usually time stamp

e.g. The name of the contribution file for the University of Liverpool for the month of June would be;

**CONT2300201506301309.tdf**

Description	Sample	Format
Prefix	CONT	X4
Institution Code	2300	N4
Period End Date	20150630	YYYYMMDD
Suffix (to ensure filename is unique)	1309	N(n)
File Extension	.tdf	X3

### 2.2 Error Files

Critical failures will need to be remedied before the file can process so will reject and require amendment before resubmitting e.g. where the file type is incorrect or the incorrect template is used.

A column for Warnings and Rejections is shown in the detailed record layout below showing which errors and warnings will be returned in the error file.

### 2.3 File Contents

#### 2.3.1 Sample file



### 2.3.2 Data Formats

Formats are listed in the layout tables using the following syntax:

- Z denotes any single numeric digit which may be blank (e.g. "1" complies with "zzz" as does "001")
- 9 denotes any single numeric digit which must be non blank (e.g. "001" complies with "999" but "1" does not)
- A denotes any single alpha character (excluding blank and numerics and other non-alphabetic characters)
- X denotes any single alpha character (including blank and numerics and other non-alphabetic characters)
- #(n) denotes a maximum of n concatenated # items
- S9/Sz denotes an always-signed (i.e. "+" or "-") leading-signed number. For Sz the sign will float to prefix the first number.
- -9/-z denotes a negative-only-signed leading-signed number. For -z the sign will float to prefix the first number.
- (n.m) a decimal value with a maximum of *n* numbers before a visible decimal point followed by a maximum of *m* numbers after before the decimal point. Note there is no notation here for a non visible decimal point as that equates to a decimal expressed as an integer in an alternative unit.
- Date denotes the date format of dd/mm/ccyy

### 2.3.3 Detail Record Layout

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
1	NI Number	AB123456C	XX999999X	<p>NI Number (NINO) is used to match employees. Where this does not produce a match, a combination of Surname and DOB will be used to match employees.</p> <p>If NINO is unknown then create and input a Temporary NINO for the purpose of this contribution file and future record matching.</p>	Yes	<p>R - Value in field is blank.</p> <p>R - Value in field is not in correct format.</p> <p>R - Where no match can be made using NINO, Institution Employee Number or a combination of Surname and Date of Birth.</p>
2	Surname	SMITH	X(30)	Used to match employee if NINO does not produce a match.	Yes	R - Value in field is blank.
3	Date of Birth	13/12/1949	Date	Used to match employee if NINO does not produce a match.	Yes	<p>R - Value in field is blank.</p> <p>R - Value is not in correct format.</p> <p>R - Value is later than today.</p> <p>R - Value is later than Date Joined Scheme.</p> <p>R - Value is later than Date Joined Scheme minus 16 years.</p> <p>R - Value is earlier than Date Joined Scheme minus 75 years.</p>
4	Institution Employee Number (IEN)	0012345ABCDE	X(64)	<p>This is the unique identifier for the employee at your institution (e.g. payroll number). It is mainly used to help institutions identify employees when dealing with queries from USS. Not all institutions use IENs. Only provide the IEN if you require USS to use the IEN when issuing queries to you.</p> <p>For employees with multiple appointments you should provide data on separate rows.</p>	No	
5	Variable Time Employment (VTE) Indicator	VTE	X(3)	Used to identify employees with VTE employments. The application of the salary threshold is different for	Yes for VTE employments.	R - Value is not in correct format.

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
				<p>employees with VTE employments therefore it is vital that they are identified.</p> <p>Value in field must equal VTE for employees with a VTE employment. Leave blank for regular employments.</p> <p>If an employee has both regular and VTE employments, these should be identified on separate rows. Only populate the VTE indicator on the row which relates to the VTE employment. Leave the indicator blank on the row which relates to the regular employment.</p> <p>If employee has more than one VTE appointment at your institution these can be shown on separate rows if your payroll does not amalgamate.</p>		
6	Date of leaving	28/06/2015	Date	<p>This is the date the employee leaves USS (either as a result of leaving employment or electing to withdraw from USS).</p> <p>Backdated dates are allowable.</p> <p>Used to identify mid-month leavers when contribution file is received before HR data file. Populating this field can reduce the number of warnings / rejections you may receive due to failed validation.</p>	No	<p>R - Value is not in correct format</p> <p>R - Value is before Date Joined Scheme.</p>
7	Current Uncapped Monthly Pensionable Earnings £	1782.96	Z(7,2)	<p>This is the pensionable earnings for the current effective period (i.e. during the period covered by the contribution file).</p> <p>Any elements relating to backdated pensionable earnings should <b>NOT</b> be included in this figure (these are to be reported separately – separate fields are provided elsewhere on this contribution file for this purpose).</p>	Yes	<p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p> <p>R - VSC election flag = 'Y' and value exceeds 1/12 of the elected VSC.</p>

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
				<p>For employees with VTE employments who have no pensionable earnings in the current effective period you should enter 0.00.</p> <p>If an employee has both regular and VTE employments these should be shown on separate rows.</p> <p>Used to validate the employee's monthly contributions and assess the salary threshold.</p> <p>If the member has a Voluntary Salary Cap (VSC) election in place, pensionable earnings shown in this field should be limited to the VSC. Pensionable earnings above the VSC should NOT be included in this figure (these are to be reported separately – a separate field is provided elsewhere on this contribution file for this purpose).</p>		
8	Contribution Month End Date	30/06/2015	Date	<p>The month end date that the contribution file relates to.</p> <p>Used to check that the file covers the correct period.</p>	Yes	<p>R - Value in field is blank.</p> <p>R - Value is not in correct format.</p> <p>R - Value doesn't reconcile with month in filename.</p>
9	Employee Normal Contributions (Salary Sacrifice) £	142.64	Z(7,2)	<p>Value in field should be 8% of the value shown in the "Current Uncapped Monthly Pensionable Earnings" field, unless it includes backdated awards or employee is a re-engaged pensioner.</p> <p>If an employee is on maternity leave with reduced pay the employer must maintain the employee contributions as if the employee was still on full pay. Include these top up employee contributions in this field.</p>	Yes for Salary Sacrifice employees	<p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p> <p>R - <del>Employee isn't a re-engaged pensioner or has</del> Does not include any backdated awards and % does not equal 8%.</p>



Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
				Employee contributions not deducted through payroll but attributable to the employee should always be recorded in the employee contribution fields, regardless of who paid them (e.g. secondment, sickness).		
10	Employee Normal Contributions (Non Salary Sacrifice) £	0.00	Z(7,2)	<p>Value in field should be 8% of the value shown in the "Current Uncapped Monthly Pensionable Earnings" field, unless it includes backdated awards <del>or employee is a re-engaged pensioner.</del></p> <p>If an employee is on maternity leave with reduced pay the employer must maintain the employee contributions as if the employee was still on full pay. Include these top up employee contributions in this field.</p> <p>Employee contributions not deducted through payroll but attributable to the employee should always be recorded in the employee contribution fields, regardless of who paid them (e.g. secondment, sickness).</p>	Yes for Non Salary Sacrifice employees	<p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p> <p>R – <del>Employee isn't a re-engaged pensioner or has</del> Does not include any backdated awards and % does not equal 8%.</p>
11	Employee DB AVC (Protected pre April 2016 contracts) £	17.83	Z(7,2)	Value in field must be correct % of pensionable earnings or agreed monthly value. Please note - pensionable earnings used must NOT be limited to the VSC, even if the member has a VSC election in place.	Yes for employees with DB AVC contracts	<p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p> <p>R - Value does not match agreed monthly contribution.</p>
12	Employee 1% Matching DC AVC (Salary Sacrifice) £	0.00	Z(7,2)	Value in field should be 1% of the value shown in the "Current Uncapped Monthly Pensionable Earnings" field, unless it includes backdated awards.	Yes for Salary Sacrifice employees who have elected to pay the 1% matching DC AVC	<p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p> <p>R – Does not include any backdated awards and % does not equal 1%.</p>

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
13	Employee 1% Matching DC AVC (Non Salary Sacrifice) £	0.00	Z(7,2)	Value in field should be 1% of the value shown in the "Current Uncapped Monthly Pensionable Earnings" field, unless it includes backdated awards.	Yes for Non Salary Sacrifice employees who have elected to pay the 1% matching DC AVC	R - Value does not represent a monetary amount. R - Value is negative. R – Does not include any backdated awards and % does not equal 1%.
14	Employee Non-Matching DC AVC (Non Salary Sacrifice) in excess of the 1% match £	0.00	Z(7,2)	Represents any employee Non-Matching DC AVC in excess of the 1% match, therefore DO NOT include the 1% matching DC AVC in this figure.	Yes for employees who have elected to pay Non-Matching DC AVCs in excess of the 1% match	R - Value does not represent a monetary amount. R - Value is negative.
15	Employee One Off DC AVC £	0.00	Z(7,2)	Represents any one off employee DC AVC.	Yes for employees who have elected to pay a one off DC AVC	R - Value does not represent a monetary amount. R - Value is negative.
16	Employee Enhanced Protection Contributions £	0.00	Z(7,2)	Value in field should be 1% of the value shown in the "Current Uncapped Monthly Pensionable Earnings" field, unless it includes backdated awards.  These contributions are only paid by employees who have elected for enhanced protection.	Yes for employees who have elected for enhanced protection	R - Value does not represent a monetary amount. R - Value is negative. R - Does not include any backdated awards and % does not equal 1%.
17	Employee Death in Service / Ill-health Cover Contributions (enhanced opt-out) £	0.00	Z(7,2)	Value in field should be 2.5% of the value shown in the "Current Uncapped Monthly Pensionable Earnings" field, unless it includes backdated awards.	Yes for employees who have elected for enhanced opt-out	R - Value does not represent a monetary amount. R - Value is a negative. R - Does not include any backdated awards and % does not equal 2.5%.

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
				These contributions are only paid by employees who have elected for enhanced opt-out.		
18	Employer Contributions £	0.00	Z(7,2)	<p>Value in field should be 18% of the value shown in the "Current Uncapped Monthly Pensionable Earnings" field, unless it includes backdated awards or if employee is paying Enhanced Protection or Death in Service / Ill-health cover contributions.</p> <p>If employee is paying Enhanced Protection contributions, the employer contribution should be £0.00. If employee is paying Death in Service / Ill-health cover contributions the employer contributions should equal the deficit contribution of 2.1% of the value shown in the "Current Uncapped Monthly Pensionable Earnings" field, unless it includes backdated awards.</p> <p>If an employee is on maternity leave with reduced pay the employer must maintain the employee contributions as if the employee was still on full pay. Include these top up employee contributions in the employee contribution fields – DO NOT include them in the employer contribution fields.</p> <p>The employee salary sacrificed contributions paid by the employer, must be included in the employee salary sacrifice contribution fields – DO NOT include them in the employer contribution field.</p> <p>The 1% Employer DC AVC matching contribution (where applicable) is already included in the 18% so no need to add or show separately.</p>	Yes	<p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p> <p>R - Does not include any backdated awards, employee has not elected for enhanced protection or enhanced opt-out and % does not equal 18%.</p>

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
19	Employer Regular DC AVC £	17.83	Z(7,2)	This field is for any regular DC AVC paid by the employer over and above the 1% matching contribution included within the 18% employer contribution.	Yes if the employer is paying regular DC AVCs	R - Value does not represent a monetary amount. R— Value is negative.
20	Employer One Off DC AVC £	0.00	Z(7,2)	This field is for any one off DC AVC paid by the employer.	Yes if the employer is paying one off DC AVC	R - Value does not represent a monetary amount. R - Value is negative.
21	Backdated Uncapped Monthly Pensionable Earnings (1)	2030.60	Z(7,2)	This is the pensionable earnings figure used to calculate the employee's backdated contributions.  If the member has a Voluntary Salary Cap (VSC) election in place, pensionable earnings shown in this field should be limited to the VSC. Pensionable earnings above the VSC should NOT be included in this figure (these are to be reported separately – a separate field is provided elsewhere on this contribution file for this purpose).	Yes if backdated contributions have been paid	R - Value does not represent a monetary amount. R - Value is negative.
22	Effective date of backdated award (1)	30/06/2015	Date	Effective date of the change to the pensionable earnings.	Yes if backdated contributions have been paid	R - Value is not in correct format. R - Date is later than today. R - Value is populated but no backdated uncapped monthly pensionable earnings figure has been supplied.
23	Backdated Uncapped Monthly Pensionable Earnings (2)	2030.60	Z(7,2)	This is the pensionable earnings figure used to calculate the employee's backdated contributions.  If the member has a Voluntary Salary Cap (VSC) election in place, pensionable earnings shown in this field should be limited to the VSC. Pensionable earnings above the VSC should NOT be included in this figure (these are to be reported separately – a separate field is provided elsewhere	Yes if more than one instance of backdated contributions	R - Value does not represent a monetary amount. R - Value is negative.

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
				on this contribution file for this purpose).		
24	Effective date of backdated award (2)	30/06/2015	Date	Effective date of the change to the pensionable earnings.	Yes if more than one instance of backdated contributions	R - Value is not in correct format R - Date is later than today R - Value is populated but no backdated uncapped monthly pensionable earnings figure has been supplied.
25	Backdated Uncapped Monthly Pensionable Earnings (3)	2030.60	Z(7,2)	This is the pensionable earnings figure used to calculate the employees backdated contributions.  If the member has a Voluntary Salary Cap (VSC) election in place, pensionable earnings shown in this field should be limited to the VSC. Pensionable earnings above the VSC should NOT be included in this figure (these are to be reported separately – a separate field is provided elsewhere on this contribution file for this purpose).	Yes if more than two instances of backdated contributions	R - Value does not represent a monetary amount. R - Value is negative.
26	Effective date of backdated award (3)	30/06/2015	Date	Effective date of the change to the pensionable earnings.	Yes if more than two instances of backdated contributions	R – Value is not in correct format. R - Date is later than today. R - Value is populated but no backdated uncapped monthly pensionable earnings figure has been supplied.
27	Backdated Uncapped Monthly Pensionable Earnings (4)	2030.60	Z(7,2)	This is the pensionable earnings figure used to calculate the member's backdated contributions.  If the member has a Voluntary Salary Cap (VSC) election in place, pensionable earnings shown in this field should be limited to the VSC. Pensionable earnings above the VSC should NOT be included in this figure (these are to be reported separately – a separate field is provided elsewhere	Yes if more than three instances of backdated contributions	R - Value does not represent a monetary amount. R - Value is negative.

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
				on this contribution file for this purpose).		
28	Effective date of backdated award (4)	30/06/2015	Date	Effective date of the change to the pensionable earnings.	Yes if more than three instances of backdated contributions	R – Value is not in correct format. R - Date is later than today. R - Value is populated but no backdated uncapped monthly pensionable earnings figure has been supplied.
29	Backdated Uncapped Monthly Pensionable Earnings (5)	2030.60	Z(7,2)	This is the pensionable earnings figure used to calculate the member's backdated contributions.  If the member has a Voluntary Salary Cap (VSC) election in place, pensionable earnings shown in this field should be limited to the VSC. Pensionable earnings above the VSC should NOT be included in this figure (these are to be reported separately – a separate field is provided elsewhere on this contribution file for this purpose).	Yes if more than four instances of backdated contributions	R - Value does not represent a monetary amount. R - Value is negative.
30	Effective date of backdated award (5)	30/06/2015	Date	Effective date of the change to the pensionable earnings.	Yes if more than four instances of backdated contributions	R - Value is not in correct format R - Date is greater than today R - Value is populated but no backdated uncapped monthly pensionable earnings figure has been supplied.
31	Current Uncapped Monthly Pensionable Earnings Above the VSC £	1666.67	Z(7,2)	This is the pensionable earnings above the Voluntary Salary Cap (VSC) for the current effective period (i.e. during the period covered by the contribution file). Any elements relating to backdated pensionable earnings should NOT be included in this figure (these are to be reported separately – separate fields are provided elsewhere on this contribution file for this purpose).	Yes if employee has a valid Voluntary Salary Cap election in place	R - If VSC election flag = 'Y' and value in this field is null R - If value in this field is not null and VSC election flag is null or = 'N' R - Value does not represent a monetary amount. R - Value is negative.

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
32	Employee VSC Death in Service / Ill-Health Cover Contributions £	41.67	Z(7,2)	Value in field should be 2.5% of the value shown in the "Current Uncapped Monthly Pensionable Earnings Above the VSC" field, unless it includes backdated awards.	Yes if employee has a valid Voluntary Salary Cap election in place and elected for additional DIS / IH Cover	<p>R - If VSC election flag = 'Y' and DIS / IH flag = 'Y' and value in this field is null</p> <p>R - If value in this field is not null and VSC election flag is null or = 'N' and DIS / IH flag = 'N'</p> <p>R- If value in this field is not null and VSC election flag = 'Y' but DIS / IH flag = 'N'</p> <p>R – Does not include any backdated awards and value in this field does not equal 2.5% of the value shown in the "Current Uncapped Monthly Pensionable Earnings Above the VSC" field</p> <p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p>
33	Employer VSC Deficit Contributions £	35.00	Z(7,2)	Value in field should be 2.1% of the value shown in the "Current Uncapped Monthly Pensionable Earnings Above the VSC" field, unless it includes backdated awards.	Yes if employee has a valid Voluntary Salary Cap election in place	<p>R - If VSC election flag = 'Y' and value in this field is null</p> <p>R - If value in this field is not null and VSC election flag is null or = 'N'</p> <p>R – Does not include any backdated awards and value in this field does not equal 2.1% of the value shown in the "Current Uncapped Monthly Pensionable Earnings Above the VSC" field</p> <p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p>
34	Employee Non-Matching DC AVC (Salary Sacrifice) £	0.00	Z(7,2)	Represents any employee Non-Matching DC AVC, therefore DO NOT include the 1% matching DC AVC in this figure.	Yes for employees who have elected to pay Non-Matching DC AVCs	<p>R - Value does not represent a monetary amount.</p> <p>R - Value is negative.</p>

Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
35	Backdated Uncapped Monthly Pensionable Earnings Above the VSC (1)	2030.60	Z(7,2)	This is the pensionable earnings above the Voluntary Salary Cap (VSC) used to calculate the employee's backdated contributions.	Yes if employee has a valid Voluntary Salary Cap election in place and backdated contributions have been paid	R - Value does not represent a monetary amount. R - Value is negative.
36	Backdated Uncapped Monthly Pensionable Earnings Above the VSC (2)	2030.60	Z(7,2)	This is the pensionable earnings above the Voluntary Salary Cap (VSC) used to calculate the employee's backdated contributions.	Yes if employee has a valid Voluntary Salary Cap election in place and more than one instance of backdated contributions having been paid	R - Value does not represent a monetary amount. R - Value is negative.
37	Backdated Uncapped Monthly Pensionable Earnings Above the VSC (3)	2030.60	Z(7,2)	This is the pensionable earnings above the Voluntary Salary Cap (VSC) used to calculate the employee's backdated contributions.	Yes if employee has a valid Voluntary Salary Cap election in place and more than two instances of backdated contributions having been paid	R - Value does not represent a monetary amount. R - Value is negative.
38	Backdated Uncapped Monthly Pensionable Earnings Above the VSC (4)	2030.60	Z(7,2)	This is the pensionable earnings above the Voluntary Salary Cap (VSC) used to calculate the employee's backdated contributions.	Yes if employee has a valid Voluntary Salary Cap	R - Value does not represent a monetary amount. R - Value is negative.



Column Number	Column Label	Sample Data	Field Format	Special Instructions	Mandatory	Warning (W)/ Rejection (R)
					election in place and more than three instances of backdated contributions having been paid	
39	Backdated Uncapped Monthly Pensionable Earnings Above the VSC (5)	2030.60	Z(7,2)	This is the pensionable earnings above the Voluntary Salary Cap (VSC) used to calculate the employee's backdated contributions.	Yes if employee has a valid Voluntary Salary Cap election in place more than four instances of backdated contributions having been paid	R - Value does not represent a monetary amount. R - Value is negative.

## File Processing

The loading of Contributions file will be followed by the processing of validations and exception checking which will be reported back from HartLink to the Institutions via the STU online portal.

The data content will be subjected to various validation tests which will produce rejections and warnings as detailed in the Warning (W)/ Rejection (R) section in this document.

## 2.4 Triggered Processes

Processing of this file triggers the Exceptions Reporting (email alert will be issued to a designated group advising of file download availability) and record updates. Data files will be delivered from HartLink to Institutions via STU.

## 2.5 Error File Structure

### 2.5.1 File Naming Conventions

The CONT<ICode><period end date><suffix>.ERROR.tdf where ICode is the relevant Institution Code, Period End Date is the period end date of the payroll in the format YYYYMMDD and suffix is usually time stamp.

E.g. the name of the contribution file for the month of June would be

**CONT2300201506301315ERROR.tdf**