The Electronic Staff Record Project

|  |  |
| --- | --- |
|  |  |

NATIONAL HEALTH SERVICE

J-120000 ESR Generic Absence Inbound Interface Specification

|  |  |
| --- | --- |
| Owner:  Last Update | ESR Solution Design Team  31st May 2013 |
| Document Ref: | J-120000 |
| Version: | 4.8 |

**Approvals:**

Barry Cooper Date:  
McKesson Development Manager

Lee Pacey Date:  
NHS Director of Development and Operations

# Document Control

## Change Record

| Date | Author | Ver | Change Reference | |
| --- | --- | --- | --- | --- |
|  |  |  |  | |
| 20 Feb 2006 | M Smith  Nick Slonskyj | 0.1 | First draft | |
| 10 Mar 2006 | Nick Slonskyj | 0.2 | Modifications made to initial review responses. | |
| 21 May 2006 | Nick Slonskyj |  | Correct typo in column numbering in file spec.  Correct Absence Types (remove NHS from name) | |
| 16 Jun 2006 | Mark Kelly | 0.3 | New absence types and change to Absence DFF – CCN225 – CR12930, CR12999 | |
| 26 Jun 2006 | Nick Slonskyj | 0.4 | Removed reference to translation tables and clarified that external system MUST supply ESR Absence Types/Reasons. Corrected names of Accrual Absence Types. Simplified text of 4.1. Removed redundant Assumption. | |
| 07 Nov 2006 | Nick Slonskyj | 1.0 | First issue. | |
| 06 Sep 2007 | Nick Slonskyj | 1.1 | Updated Absence Reasons as of 4.5.2.50 and added Sickness Absence Reasons | |
| 25 Feb 2008 | Mark Kelly | 1.2 | New Absence DFF segments CCN398, CR16677 | |
| 01 Dec 2008 | Nick S | 1.3 | CR18348 – Unpaid Hrs Absences | |
| 20-May-09 | Mark Kelly | 1.4 | Updated leave reasons at request of NHS Interface Team | |
| 03-Jun-09  06-Jul-09 | Mark Kelly  Nick Slonskyj | 1.5 | Review comments - update with new Annual Leave Plans introduced as part of CR18337.  Corrected Hash Total data format per SR418899. | |
| 16-Jul-09 | Nick Slonskyj | 1.6 | Corrected accrual absence type names – added NHS | |
| 21-Aug-09 | Nick Slonskyj | 2.0 | Raise to version 2.0 and issue for sign off. | |
| 07-Oct-09 | Nick Slonskyj | 2.1 | SR478783 – Correct cut & paste error in 5.2.3 | |
| 24-Nov-09 | Mark Kelly | 2.2 | CCN561 CR19587 add two new optional segments to absence DFF | |
| 08-Jan-10 | Steve Vincent | 2.3 | MC538 AfC Average Pay – no change in functionality just an explanation that annual leave is pay affecting but is treated by the interface as if it were not. | |
| 07/04/2010 | Rebecca Hewer | 3.0 | Issued for sign off | |
| 10/06/2010 | Mark Kelly | 3.1 | CCN594 CR20165 Updates to Absence Reasons for Paid Part Day and Special Increasing bal | |
| 18/11/2010 | Mark Kelly | 3.2 | CCN629 CR20709 Changes to Absence Record | |
| 09/12/2010 | Mark Kelly | 3.3 | CCN629 Review comments | |
| 21/12/2010 | Mark Kelly | 4.0 | Raise to version 4.0 and issue for sign off | |
| 22/02/2011 | Mark Kelly | 4.1 | CCN629 CR20709 Correction to control character in some of the SART Level 2 Sickness reason meanings (in embedded spreadsheet). Some other clarifications. | |
| 05/05/2011 | Mark Kelly | 4.2 | CCN629 CR20709 clarification on null reason codes supplied for updates query raised from 4.1 review | |
| 31/08/2011 | Mark Kelly | 4.3 | CCN707 CR21455 New DFF Segments Added | |
| 25/01/2012 | Mark Kelly | 4.4 | CCN728 CR30303 New DFF Segments Added to Absence Record | |
| 05/03/2012 | Nick Slonskyj | 4.5 | SR901824 Clarify what happens when Start Time is not supplied for an absence recorded in hours. | |
| 10/07/2012 | Mark Kelly | 4.6 | CCN778 CR30702 Add Working Days Lost to Absence DFF |
| 07/03/2013 | Mark Kelly | 4.7 | CCN840 CR31097 Add Assessment Date to Absence DFF  CCN844 CR31317 Allow Overlapping absences to load | |
| 31/05/2013 | Caroline Wilson | 4.8 | CCN872 CR31489 Link existing Absence Reasons to existing Absence Types | |

## Reviewers

| Name | e-Mail | Position |
| --- | --- | --- |
|  |  |  |
| David Booth | dbooth@nhs.net | NHS Interface Team |
| Mike Rigby | mike.rigby@nhs.net | NHS Interface Team |
| Mark Kelly |  | ESR Solution Design Team |
| Alan Fairbrother |  | ESR Solution Design Team |
| Nick Slonskyj |  | ESR Solution Design Team |
| Kieron Walsh |  | NHS Development Team |
| Nick Adcock |  | NHS Development Team |
| Maria Scott |  | NHS Development Team |
|  |  |  |

## Distribution

| Name | e-Mail | Position |
| --- | --- | --- |
|  |  |  |
| David Booth | dbooth@nhs.net | NHS Interfaces |
| Robert Jamieson | [RobertJ@smart-workforce.com](mailto:RobertJ@smart-workforce.com) | SMART Development Manager |
| Nick Whiteley | NickW@smart-workforce.com | SMART Managing Director, Health Division |
|  |  |  |

**Note To Holders:**

If you receive an electronic copy of this document and print it out, please write your name on the equivalent of the cover page, for document control purposes.

If you receive a hard copy of this document, please write your name on the front cover, for document control purposes.

## Related Documents

| # | Name | Author | Ref |
| --- | --- | --- | --- |
| 1 |  |  |  |
| 1 | Interface and Integration Strategy | Consortium Technical Team | J-0200 |
| 2 | Generic Attendance Inbound Interface | Consortium Technical Team | J-11200 |
|  |  |  |  |

## Glossary

| Term | Description |
| --- | --- |
|  |  |
| ASCII | An industry standard character set |
| CSV | Comma Separated Value, an industry standard file format |
| Element or Element Entry | Element Entries are processed during the payroll run and determine the person’s pay, benefits and deductions. Also referred to simply as element. |
| ESR | Electronic Staff Record |
| FTP | File Transfer Protocol |

Contents

[1 Document Control ii](#_Toc350434103)

[1.1 Change Record ii](#_Toc350434104)

[1.2 Reviewers ii](#_Toc350434105)

[1.3 Distribution iii](#_Toc350434106)

[1.4 Related Documents iii](#_Toc350434107)

[1.5 Glossary iii](#_Toc350434108)

[2 Introduction 6](#_Toc350434109)

[2.1 Purpose 6](#_Toc350434110)

[2.2 Scope 6](#_Toc350434111)

[2.3 Solution Overview 6](#_Toc350434112)

[3 Physical Architecture 7](#_Toc350434113)

[3.1 Physical Environment 7](#_Toc350434114)

[3.2 Communications Link 7](#_Toc350434115)

[3.3 Security 8](#_Toc350434116)

[4 Application Interface Description 9](#_Toc350434117)

[4.1 Process Overview 9](#_Toc350434118)

[4.2 Activation 10](#_Toc350434119)

[4.3 File Validation 15](#_Toc350434120)

[5 Physical Data Format 17](#_Toc350434121)

[5.1 General File Formatting Principles 17](#_Toc350434122)

[5.2 Absence File Formats 18](#_Toc350434123)

[6 Non Functional Qualities 22](#_Toc350434124)

[6.1 Delivery Frequency 22](#_Toc350434125)

[6.2 Volumes and Sizes 22](#_Toc350434126)

[6.3 Timings and Scheduling 22](#_Toc350434127)

[6.4 Exception Handling 22](#_Toc350434128)

[7 Assumptions, Omissions, and Forecast Changes 23](#_Toc350434129)

[7.1 Assumptions 23](#_Toc350434130)

[7.2 Omissions 23](#_Toc350434131)

[7.3 Forecast Changes 23](#_Toc350434132)

[7.4 Open Issues 23](#_Toc350434133)

[7.5 Closed Issues 23](#_Toc350434134)

# Introduction

## Purpose

The purpose of this document is to define the ESR Generic Absence Inbound Interface for the benefit of the NHS and any third party suppliers that may be required to transfer Absence information to ESR.

## Scope

This document specifies the transfer of absence information from an external system to ESR. The data layout includes each data element, its description, data type, formatting restrictions if any, and the maximum length. It also defines the business rules that may affect the interface processing.

The features of the physical architecture are briefly described, such as the communication link, file transfer software used, and security considerations.

This document also includes non-functional requirements such as file naming conventions, the transfer frequency of files, approximate volumes of files, security, error handling, archiving, and auditing procedures.

This document does not contain the low level design for the interface and communications protocols used, or describe how the interface will be implemented.

## Solution Overview

Within the context of this interface, absences are defined as times when an employee would normally be present for work but is not. ESR accepts the following absence types:

* Sickness Leave
* Annual Leave
* Study Leave
* Special Leave
* Unpaid Authorised Special Leave
* Unpaid Unauthorised Leave
* Paid Leave

The physical exchange of data will be done using CSV files via FTP. Absence related information will typically be sent in to ESR periodically, based on the payroll cycle.

Planned absences may not be sent through the interface until they have actually occurred.

Certain absences that affect an employee’s pay cannot be modified once processed by ESR because the effects on the payroll cannot easily be undone - a user must make an active decision when doing so. For example, with few exceptions, modifications to sickness absences made after they have been loaded into the ESR database will be rejected by the interface, and therefore must be modified manually. Other absences that do not directly impact the employee’s pay can be modified in some circumstances.

# Physical Architecture

## Physical Environment

**ESR**

NHS Hub

External Systems

NHS Net

User Workstations

FTP

FTP

ESR Hub

ESR Server

NHS Net

The physical environment consists of several independent servers:

* The third party system may deliver its files to the NHS Hub or may connect directly to the ESR Hub depending upon the particular circumstances relating to the implementation.
* Connection to the hubs is expected to occur over NHS Net.
* The NHS Hub handles file transfers on behalf of the NHS and also executes bespoke application software written and maintained by the NHS.
* The ESR Hub is a dedicated file transfer server provided by McKesson.
* All connections with the ESR Hub must be initiated by the ESR Hub. The Hub must “pull” data rather than having it “pushed” to it.
* The ESR Server hosts the Oracle HRMS application suite and provides the core of the HR and payroll facilities.

The ESR servers and Hubs are connected to each other via the McKesson LAN and are all housed and maintained by McKesson.

## Communications Link

The physical connection between the hubs and ESR will be via the McKesson internal LAN using password authentications and standard FTP software.

All files are in ASCII format. The ESR Hub will be responsible for ensuring that the end-of-line characters are translated correctly during the FTP stage.

Files will be transferred to ESR using FTP. FTP will be configured to convert the end-of-line characters of PC type files (carriage return Hex ’0D’ and line feed Hex ’0A’) to the UNIX standard of just a single line feed character (line feed Hex ’0A’). FTP has built-in data integrity through the use of an error-correcting transport protocol. The one problem to be guarded against with FTP, however, is the possibility of a transmission failure leaving part of a file on the target system. To defend against this, files will be transmitted first to a temporary directory and then moved (renamed) to another directory once the transfer has successfully completed. The ESR Hub will initiate all file transfers to itself.

The file transfer mechanism and the file formats used between the NHS Hub and any external system are beyond the scope of this interface specification.

## Security

Files transferred onto the ESR Hub will NOT be encrypted whether they originate on the NHS Hub or an external system. The use of encryption for file transfers between the NHS Hub and other systems is beyond the scope of this interface specification.

# Application Interface Description

## Process Overview

Absences may only be sent to ESR after they have occurred, planned absences must not be sent in advance.

Two categories of absences may be sent to ESR

Absences that affect pay

* Sickness Leave
* Some Special Leave

Absences that do not affect pay

* Annual Leave\*
* Study Leave
* Some Special Leave
* Paid leave

\*With the introduction in April 2010 of AfC Average Pay during absences because of sickness or annual leave it is not strictly true to refer to annual leave as non pay affecting. However, for the purposes of the interface there is no change to the way in which these absences are treated so they will continue to be referred to as absences that do not affect pay.

Maternity, paternity, and adoption absences are entered directly into ESR, and are not accepted via this interface. Since these may be entered in advance they could conflict with, and prevent absences received via this interface from being successfully loaded into ESR. In order to reduce the number of rejections; maternity, paternity, and adoption absences should be entered in ESR as projected absences until they become “actual” absences; then the projected dates can be confirmed as actual dates.

In ESR absences are related to a person but annual leave entitlements are related to an assignment and a person may have several assignments. When a person is absent from one assignment they are by definition absent from all of their assignments.

With the exception of Annual Leave, ESR will only accept one absence record per absence per person.

It is recognized that the restrictions placed on the interface will lead to ESR rejecting some absence records. Due to the complicated nature of absence processing in ESR it is not cost effective to try and cater for every possible case. Therefore, the intent is to cater for the majority of absences. In the event that an absence is rejected, it will be reported on the exception report.

Absence records are processed in the order they are received so the file must be sorted by the external system before it is submitted to ESR. The required sort order is by Employee Number, then by Absence Start, then by Modified Date and Time.

Absence records supplied by the external system must include the ESR Employee Number, Absence Type and Absence Reason (where needed) in order for the data to be successfully processed and loaded into ESR. Lists of currently valid Absence Types and Reasons are included in this document but it is the responsibility of the external system to verify that they have up to date lists prior to any implementation of this interface. How the external system is supplied with ESR Employee Numbers is outside the scope of this document.

The external system is expected to deliver files to the NHS Hub or allow the ESR Hub to connect to an appropriate server to pick them up directly. Typically the connection will be over NHS Net. Precise details of which mechanism is adopted are implementation specific and are outside the scope of this document.

Where a single system serves several Trusts the data must be segregated such that a file only contains absences for a single Trust.

## Activation

Absence related information is expected to be sent to ESR periodically, typically based on the payroll cycle. The interface itself does not enforce any specific periodicity.

### Absences That Do Not Affect Pay

The processing restrictions on absences that do not affect pay are less restrictive than for those that do. The absence types include the following.

| **Absence Type** | **Absence Category** | **Units** | **Absence Reasons** |
| --- | --- | --- | --- |
| Annual Leave Accrual 1 NHS  Annual Leave Accrual 2 NHS  Annual Leave Accrual 3 NHS  Annual Leave Accrual 4 NHS  Annual Leave Accrual 5 NHS | Annual Leave\* | Days | Annual Leave |
| AfC Annual Leave Accrual 1 NHS  AfC Annual Leave Accrual 2 NHS  AfC Annual Leave Accrual 3 NHS  AfC Annual Leave Accrual 4 NHS  AfC Annual Leave Accrual 5 NHS | Annual Leave\* | Hours | Annual Leave |
| Annual Leave Hours 1 NHS  Annual Leave Hours 2 NHS  Annual Leave Hours 3 NHS  Annual Leave Hours 4 NHS  Annual Leave Hours 5 NHS | Annual Leave\* | Hours | Annual Leave |
| Bank Annual Leave Hours 1 NHS  Bank Annual Leave Hours 2 NHS  Bank Annual Leave Hours 3 NHS  Bank Annual Leave Hours 4 NHS  Bank Annual Leave Hours 5 NHS | Annual Leave\* | Hours | Annual Leave |
| Study Increasing Bal  Study Decreasing Bal | Study Leave | Days | Study Leave |
| Special Decreasing Bal | Special Leave | Days | |  | | --- | | Antenatal | | Attendance at Public Bodies | | Bereavement | | Career Break | | Compassionate Leave | | Court Appearance | | Carer's Leave | | Disability Leave | | Emergency Leave/Time Off for Dependants | | Industrial Action | | Interview Leave | | Infection Precaution | | Jury Service | | Magisterial/Local Government/Parliamentary Candidate | | Medical/Dental Appointment | | Medical Suspension | | Parental Leave | | Phased Return to Work | | Suspended - Paid | | Training with Reserve and Cadet Forces | | Time Off in Lieu - Other | | Time Off in Lieu - Overtime/Time Owed | | Time Off in Lieu - Worked Public Holiday | | Trade Union Duties | | Other | |
| Special Increasing Bal | Special Leave | Days | |  | | --- | | Antenatal | | Attendance at Public Bodies | | Bereavement | | Career Break | | Compassionate Leave | | Court Appearance | | Carer's Leave | | Disability Leave | | Emergency Leave/Time Off for Dependants | | Industrial Action | | Interview Leave | | Infection Precaution | | Jury Service | | Magisterial/Local Government/Parliamentary Candidate | | Medical/Dental Appointment | | Medical Suspension | | Parental Leave | | Phased Return to Work | | Suspended - Paid | | Training with Reserve and Cadet Forces | | Time Off in Lieu - Other | | Time Off in Lieu - Overtime/Time Owed | | Time Off in Lieu - Worked Public Holiday | | Trade Union Duties | | Other | |
| Medical Suspension with Pay | Paid Leave | Days | Allergy  Infection  Needlestick  Other |
| Paid Part Day | Paid Leave | Hours | Attendance at Public Bodies  Compassionate Leave  Carer's Leave  Disability Leave  Industrial Action  Interview Leave  Medical/Dental Appointment  Paid Part Day  Sickness  Time Off in Lieu - Other  Time Off in Lieu - Overtime/Time Owed  Time Off in Lieu - Worked Public Holiday  Other  Phased Return to Work  Trade Union Duties |
| Training Development | Paid Leave | Days | Development  External Training  Internal Training  Other |

\*With the introduction in April 2010 of AfC Average Pay during absences because of sickness or annual leave it is not strictly true to refer to annual leave as non pay affecting. However, for the purposes of the interface there is no change to the way in which these absences are treated so they will continue to be referred to as absences that do not affect pay.

The following processing rules and restrictions apply to absences that do not affect pay:

* Absences must not be sent until the start date becomes “actual”. They will be rejected prior to this.
* Once an absence has been received by ESR it will subsequently only allow the following fields of the absence record to be modified
  + Absence Reason
  + Absence End Date
  + Absence End Time
  + Duration Days
  + Duration Hours
  + Hours Lost
  + Sessions Lost
  + Working Days Lost
  + Work Related
  + Third Party
  + Disability Related
  + Violence Related
  + Notifiable Disease
  + Return to Work Discussion Date
  + Occupational Health Referral Date
  + Surgery Related
  + DH Monitoring
  + Level 2 Sickness Reason
  + HR Intervention
  + HR Intervention Date
  + HR Manager
  + Final Interview Date
  + AfC First Period Hours Override
  + AfC Last Period Hours Override
  + Assessment Date

The only way to update any other value is to send a deletion of the original absence (Operation Type = ‘DEL’) followed by an insert (Operation Type = ‘ADD’).

* Absence dates may overlap with other absences where they are of a different Absence Category (but see next bullet for Annual Leave exceptions to this rule). This applies even to absences that are not received from external systems, such as Adoption, Maternity, Paternity, etc. ESR may accept absence records that overlap other absences provided no other validation rules have been broken. It is the responsibility of the external system to maintain the integrity of the absence information.

e.g. a new annual leave record may overlap an existing non annual leave record, but a new sickness absence cannot overlap an existing sickness absence as this would break the standard ESR rules for absences.

* An Annual Leave absence may overlap another Annual Leave absence of a different Absence type. Therefore, an Annual Leave absence of type *“Annual Leave Accrual 1 NHS”* may overlap an Annual Leave absence of type *“Annual Leave Accrual 2 NHS”*, *“Annual Leave Accrual 3 NHS”*, etc, but cannot overlap another absence of type *“Annual Leave Accrual 1 NHS”*, or any other absence of a different Absence Category (e.g. Study Leave, Special Leave, Sickness, etc.).  
    
  Annual Leave absences accrue against the leave entitlement of an individual assignment within ESR. The Absence Types *“Annual Leave Accrual 1 NHS”*, *“Annual Leave Accrual 2 NHS”*, etc, correspond to the Accrual Plans of Assignment 1, Assignment 2 etc, so ESR is able to link these absences to the correct assignment.
* All absences are calculated in whole days with the exception of AfC Annual Leave absences that are in calculated in hours.

### Absences That Do Affect Pay

Absences that do affect an employee’s pay are more restricted because payroll elements are created in ESR when the absence is loaded. The absence types that affect pay include the following.

| **Absence Type** | **Absence Category** | **Units** | **Absence Reasons** |
| --- | --- | --- | --- |
| Sickness | Sickness | Days | SART reasons can be used from 01-Apr-2011. A transition period has been agreed so that files containing old sickness absence reasons can still be loaded provided they are processed before 30-Jun-2011. From 30-Jun-2011 where a new sickness absence reason is supplied it must be a new SART value or else the row will fail.  S10 Anxiety/stress/depression/other psychiatric illnesses  S11 Back Problems  S12 Other musculoskeletal problems  S13 Cold, Cough, Flu - Influenza  S14 Asthma  S15 Chest & respiratory problems  S16 Headache / migraine  S17 Benign and malignant tumours, cancers  S18 Blood disorders  S19 Heart, cardiac & circulatory problems  S20 Burns, poisoning, frostbite, hypothermia  S21 Ear, nose, throat (ENT)  S22 Dental and oral problems  S23 Eye problems  S24 Endocrine / glandular problems  S25 Gastrointestinal problems  S26 Genitourinary & gynaecological disorders  S27 Infectious diseases  S28 Injury, fracture  S29 Nervous system disorders  S30 Pregnancy related disorders  S31 Skin disorders  S32 Substance abuse  S98 Other known causes - not elsewhere classified  S99 Unknown causes / Not specified  Where a reason is not supplied for a new sickness absence (i.e. an ADD record) this will be defaulted to ‘S99 Unknown causes / Not specified’ by the interface.  Where a reason is not supplied for an update to an existing sickness absence record (i.e. a UPD record) then the current value for reason held against the absence in ESR will be left unchanged.  Listed above are the Level 1 Sickness Reasons. There is also an optional Level 2 reason for sickness absences. The full list of Level 2 reasons is as per the attached spreadsheet. Note the Level 2 reason is dependant on the Level 1 reason i.e. a level 2 reason should only be supplied where a level 1 reason has been supplied from the list above and the first three characters of the Level 1 and Level 2 reasons must match or else the row will be rejected as invalid. Meanings are to be supplied in the file as outlined in the attached spreadsheet. |
| Unpaid Authorised Special | Special Leave | Days | |  | | --- | | Adoption Leave | | Attendance at Public Bodies | | Bereavement | | Career Break | | Compassionate Leave | | Court Appearance | | Carer's Leave | | Disability Leave | | Emergency Leave/Time Off for Dependants | | Industrial Action | | Interview Leave | | Jury Service | | Magisterial/Local Government/Parliamentary Candidate | | Medical/Dental Appointment | | Parental Leave | | Paternity Leave | | Phased Return to Work | | Suspended - Unpaid | | Training with Reserve and Cadet Forces | | Other | |
| Unpaid Authorised Special Hrs | Special Leave | Hours | |  | | --- | | Adoption Leave | | Annual Leave | | Attendance at Public Bodies | | Bereavement | | Career Break | | Compassionate Leave | | Court Appearance | | Carer's Leave | | Disability Leave | | Emergency Leave/Time Off for Dependants | | Industrial Action | | Interview Leave | | Jury Service | | Magisterial/Local Government/Parliamentary Candidate | | Medical/Dental Appointment | | Parental Leave | | Paternity Leave | | Phased Return to Work | | Suspended - Unpaid | | Training with Reserve and Cadet Forces | | Other | |
| Unpaid Unauthorised Special | Special Leave | Days | Industrial Action  Training with Reserve and Cadet Forces  Unauthorised Leave  Other |
| Unpaid Unauth Special Hrs | Special Leave | Hours | Industrial Action  Training with Reserve and Cadet Forces  Unauthorised Leave  Other |

The following processing rules and restrictions apply to absences that do affect pay:

* Absences must not be sent until the start date becomes “actual”. They will be rejected prior to this.
* The absence end date must not be populated until the end date becomes “actual”.
* Neither the start date nor the end date can be updated in ESR once they have been populated.
* Absences that affect pay cannot be deleted from ESR via the interface.
* Once an absence that affects pay has been loaded in ESR the following fields of the absence record may be modified, but only from a Null value to a not Null value
  + Absence End Date
  + Absence End Time
  + Duration Days
  + Duration Hours
* The following fields of an Absence record may be freely modified, irrespective of their values:
  + Absence Reason
  + Hours Lost
  + Sessions Lost
  + Working Days Lost
  + Work Related
  + Third Party
  + Disability Related
  + Violence Related
  + Notifiable Disease
  + Return to Work Discussion Date
  + Occupational Health Referral Date
  + Surgery Related
  + DH Monitoring
  + Level 2 Sickness Reason
  + HR Intervention
  + HR Intervention Date
  + HR Manager
  + Final Interview Date
  + AfC First Period Hours Override
  + AfC Last Period Hours Override
  + Assessment Date
* Absence dates may overlap with other absences provided they are of a different Absence Category. This applies even to absences that are not received from external systems, such as Adoption, Maternity, Paternity, etc. ESR may accept absence records that overlap other absences provided no other validation rules are broken.
* For sickness absences only
  + If an employee falls sick during a day in which they have partially worked, their sickness will commence from the following day (in line with SSP legislation) provided they do not return to work on their next scheduled working day.
  + A sickness absence is rejected if the employee already has another sickness, maternity, paternity, or adoption absence with a later date (i.e. in the future)
  + Where a Level 2 Sickness Absence is supplied there must be a corresponding value supplied for Absence Reason i.e. the first three characters of the Absence Reason and the Level 2 Sickness Reason must match.
  + Where no Absence Reason is supplied in the interface file for a new absence then a value of ‘S99 Unknown causes / Not specified’ will be defaulted when the sickness absence is created in ESR.
* For Unpaid Authorised Special and Unpaid Unauthorised Special absences only
  + ESR cannot currently modify the element entries associated with unpaid absences. Therefore, any updates to these absence types will be updated under the normal processing rules, but will also result in an exception being reported on the exception report. This is done in order to notify the end user that it may be necessary to manually amend the element entry associated with the absence.
* For Unpaid Authorised Special Hrs and Unpaid Unauth Special Hrs
  + ESR will not allow open ended Unpaid Hours absences. When these Absence Types are loaded through the interface then an Absence End Date must also be supplied. If this is not the case then the relevant records will be rejected.

## File Validation

The situations explained below result in rejection of the entire Absence file:

1. The file is a duplicate and thus has already been processed. A file is deemed a duplicate if a file header record with the same *File Name* and *Source System Code* has already been processed.
2. There is not exactly one header record and one footer record in the file.
3. The number of absence records in the file does not equal the record count in the footer record.
4. The *Trust Identifier* in the header record is not configured within ESR.
5. One or more of the fields exceed the maximum field length allowable.
6. One or more of the fields is of the wrong data type. E.g. a non-numeric value is received where a numeric value is expected.
7. Any record is found with *Record Type* value that is unpopulated or invalid.

In cases where an entire file is rejected, the error is reported to an error Log file.

The situations explained below result in rejection of a single record within an Absence file:

1. A mandatory field value is not populated.
2. The *Operation Type* is invalid.
3. The *Absence Type* is not recognized by ESR.
4. The *Absence Reason* is not a valid for the associated *Absence Type* or is not recognized by ESR.
5. An Annual Leave Accrual Absence Type is supplied and a matching Accrual Plan is not found against any of the employee’s assignments.
6. Absence duration supplied exceeds the calculated duration given the start and end dates/times.
7. Any processing rules detailed in section above relating to Absences that Do/Do Not Affect Pay are violated.
8. The person/assignment associated with the absence is not linked to a payroll.
9. The Absence start and/or end dates are outside the valid dates of the person/assignment associated with the Absence. The basic premise is that the absence duration is within the valid/active period of the assignment. For annual leave absences the specific assignment (and thus the accrual plan) must be valid for the duration of the annual leave. For all other absences the person must have a valid primary assignment for the duration of the absence.
10. There are inconsistencies between the Absence Start Date, Absence Start Time, Absence End Date, Absence End Time, Duration Days, and Duration Hours (see below).
11. Attempting to update a field for an existing absence that cannot be updated as listed above.
12. Attempting to delete an absence that affects pay.
13. When inserting a new absence (Operation Type = ‘ADD’) the *“External Absence Reference”* must not already exist for an absence record in ESR. When updating or deleting an absence record (Operation Type = ‘UPD’ or ‘DEL’) the *“External Absence Reference”* must match an existing absence record in ESR.

Additionally,

For *Absence Types* defined in days:

* + The date components (*Absence Start Date* and optionally *Absence End Date*), and the duration in days (*Duration Days*) should be populated,
  + The time components (*Absence Start Time* and *Absence End Time*), and the duration in hours (**Duration Hours**) may optionally be populated.

For *Absence Types* defined in hours:

* + The date and time components (*Absence Start Date/Time* and optionally *Absence End Date/Time*), and the duration in hours (Duration Hours) should be populated
  + The duration in days (*Duration Days*) should be Null

**Finally, note that if any absence record for an employee is rejected, then all absence records in that file for that employee with a start date on or after the start date of the rejected record will also be rejected.**

# Physical Data Format

## General File Formatting Principles

The section describes general formatting requirements that should enable consistency in processing.

All files are in ASCII format. The ASCII line feed character (Hex ’0A’) will terminate all records. The header record should be the first record of a file; the footer record should be the last.

Null value fields are sent as either two commas side by side [,,], or two commas separated by two double quotes [,””,], or nothing following the last comma separator in the case of the last field in a record. A field is optional unless specified as mandatory. A field must be enclosed in double quotes if it contains one or more double quotes [“] or one or more commas [,].

Where appropriate a numeric value may be preceded by an optional plus or minus sign.

All dates must be valid dates and are restricted to the fixed length format

YYYYMMDD

Where, YYYY represents the 4-digit year, MM represents the 2-digit month, and DD represents the 2-digit day. E.g. 20040714 (14th July 2004) or 20040409 (9th April 2004)

All timestamp values (date plus time) are sent in the fixed length format

YYYYMMDDHH24MISS

Where, YYYYMMDD are as specified in the date format above, HH24 represents the 2-digit hour of a 24-hour clock, MI represents the 2-digit minute, and SS represents the 2-digit second. No spaces separate the date portion of the timestamp from the time portion. E.g. 20040626221652 (10:16:52: PM on 26th June 2004)

In the record definition tables throughout this section, the following convention is applied for field lengths & data types: ?(n), where ‘n’ is the (maximum) number of bytes occupied by the field and ‘?’ is the field type indicator. The usage is as follows,

* X(n) – variable length character field, of up to n characters
* F(n) – fixed length character field, containing n characters as specified
* N(n[,m]) – variable numeric field, of up to n digits, where n is the max number of digits and m is the optional number of digits after an optional decimal point
* L(n[,m]) –fixed length numeric field, padded with leading zeros, where n is the total of digits and m may be optionally specified as the number of digits after a decimal point

Mandatory data items are shown marked with a plus sign (‘+’) in the “Data Format” column of the tables below. Records that have missing or invalid mandatory values will be rejected.

Where a value is shown within single quotes (‘) it should be supplied exactly as indicated. E.g. the header record type is ‘HDR’.

Mandatory and optional data items are indicated by the use of special characters (+ \* @) in the “Data Format” column of the table,

* Mandatory fields are shown marked with plus sign (‘+’). Records that have missing or invalid mandatory values will be rejected .
* Fields marked with at asterisk (‘\*’) are required placeholders in the interface definition, but are not supplied. A null value is always sent .
* Fields marked with at at-sign (‘@’) are supplied by the sending system but are always ignored. The data is not stored permanently and no data item validation is done for such a field.

Additional, item specific validation rules are indicated as necessary in the “Comments” column.

## Absence File Formats

### Naming Conventions

The file containing application data will be named using following conventions:

AB\_TTT\_SYS\_PRYYNN\_99999999.DAT

Where:

|  |  |
| --- | --- |
| AB | Constant ‘AB’ denoting ‘Absence’ |
| TTT | Trust Identifier (VPD Number) |
| SYS | Source System Code as agreed with McKesson |
| PRYYNN | Period Identifier  P = Period Type (‘M’ Monthly, ‘W’ Weekly, etc.)  R = Run Type (‘N’ for Normal or ‘S’ for Supplementary)  YY = Tax Year Ending, for 2001/2002 this will be 02  NN = Period Number  If the source system cannot supply the Run Type, Tax Year, and Period Number, then these values will be set to ‘N’, ‘99’, and ‘99’ respectively. |
| 99999999 | Unique Interface File Identifier |
| DAT | Constant ‘DAT’ extension denoting data file |

For example, AB\_060\_XYZ\_MN0427\_00006871.DAT

### File Header Record

To ensure the integrity of files during transfer, files will include a header record, and a trailer record containing a record count.

The header record must be the first record of the file. There must be one and only one header record.

| Item No. | Data Item | Data Format | Comments |
| --- | --- | --- | --- |
| 0 | Record Type | X(3)+ | Record Type: Constant ‘HDR’ |
| 1 | File Name | X(40)+ | Name of File |
| 2 | Creation Date | F(14) + | Date/Time Stamp of file creation.  Format: YYYYMMDDHH24MISS e.g.: 20021231184559 for 31-DEC-2002 18:45:59 |
| 3 | Source System Code | X(3) + | Source System Code.  This must be unique to the relevant third-party system and must be agreed with McKesson. |
| 4 | Trust Identifier | X(3) + | Trust Identifier (VPD Number) of the payroll to which the Absence records relate.  E.g.: 060 |
| 5 | Period Type | F(1)+ | Payroll Period Type: Weekly = ‘W’, Monthly = ‘M’, ‘Lunar Month’ = ‘L’ and ‘Bi-Week’ = ‘F’.  If the External System cannot supply the Period Type it should be set to ‘9’.  This field is for information only and is not validated by ESR. |
| 6 | Process Type | F(1)+ | Not Currently Used. Always set to ‘N’.  This field is for information only and is not validated by ESR. |
| 7 | Tax Period | L(2)+ | Tax Period Number. 01 to 53 for Weekly, 01 to 12 for Monthly.  If the External System cannot supply the Tax Period it should be set to ‘99’.  This field is for information only and is not validated by ESR. |

### Absence Record

Absence records are processed in the order they are received in the file.

An Absence is uniquely defined by the *“External Absence Reference“*.

An Absence file containing zero absence records (i.e. containing just a header and footer record) will be accepted as a valid file. There is no maximum size restriction for an Absence file

| Item No. | Data Item | Data Format | Comments |
| --- | --- | --- | --- |
| 0 | Record Type | X(3)+ | Record Type: Constant ‘ABS’ for Absence. |
| 1 | Effective Date | X(8) + | The Date the record was created or last updated in the external system.  YYYYMMDD |
| 2 | Operation Type | X(3) + | Operation Type. May be ‘ADD’, ‘UPD’ or ‘DEL’. |
| 3 | External Absence Reference | X(150) + | Reference that uniquely identifies the Absence record on the external system. This value is stored in the ESR database and used to locate an absence record during update and delete operations. |
| 4 | Employee Number | X(30)+ | The unique Employee Number as defined in ESR.  Note that the external system must have previously been supplied with the ESR Employee Number in order to send them back to ESR to allow it to associate the absence data with the correct person record in its own database. |
| 5 | Absence Type Name | X(30)+ | Absence Type. See list above. |
| 6 | Absence Reason | X(80) | Absence Reason. See list above. |
| 7 | Absence Start Date | X(8)+ | Absence Start Date. YYYYMMDD. |
| 8 | Absence Start Time | N(4) | Absence Start Time. 24 hour format: HHMM  If Absence Type is in hours then this field should be populated. If it is not populated then ESR will calculate the Absence Duration based on default start and end times.  If Absence Type is in days, this field is optional. |
| 9 | Absence End Date | X(8) | Absence End Date. YYYYMMDD.  This data item is mandatory when the Absence Type is ‘Unpaid Authorised Special Hrs’ or ‘Unpaid Unauth Special Hrs’. |
| 10 | Absence End Time | N(4) | Absence End Time (24 hour format): format HHMM  If the Absence End Date Null then this field must be Null.  If the Absence End Date is populated   * If Absence Type is in days then this field is optional * If Absence Type is in hours then this should be populated |
| 11 | Duration Days | N(8,4) | The cumulative number of days for the absence.  If Absence Type is in days   * If the Absence End Date is Null, this field must be NULL, otherwise this field is optional * If the Absence End Date is Not Null, this field should be populated, but if it is not then the value will be calculated by ESR as the number of whole days between the Absence Start Date and Absence End Date   If Absence Type is in hours   * This field must be Null |
| 12 | Duration Hours | N(6,2) | The cumulative number of hours for the absence.  If Absence Type is in days   * This field must be Null.   If Absence Type is in hours then this field may be populated. If it is not then ESR will calculate the Duration based on the Absence Start Time and Absence End Time.   * If the Absence Start Time is not populated then ESR will calculate the duration based on default start and end times. * If the Absence End Time is not populated but the Absence Start Time is populated then ESR will calculate duration using a default end time. |
| 13 | Hours Lost | N(8,2) | The cumulative number of Hours Lost due to the absence. |
| 14 | Sessions Lost | N(8,2) | The cumulative number of Sessions Lost due to the absence. |
| 15 | Work Related  (formerly Industrial Injury) | X(1) | Is the absence work related?  Valid Values ‘Y’=Yes or ‘N’=No |
| 16 | Third Party | X(80) | Is a third party involved in the Absence?  Valid Values ‘RTA’=Road Traffic Accident  ‘Other’ = Other |
| 17 | Disability Related | X(1) | Is the absence disability related?  Valid Values ‘Y’=Yes or ‘N’=No |
| 18 | Violence Related | X(1) | Is the absence violence or aggression related?  Valid Values ‘Y’=Yes or ‘N’=No |
| 19 | Notifiable Disease | X(1) | Is the absence for a notifiable disease?  Valid Values ‘Y’=Yes or ‘N’=No |
| 20 | Return to Work Discussion Date | X(8) | Date YYYYMMDD |
| 21 | Occupational Health Referral Date | X(8) | Date YYYYMMDD |
| 22 | Surgery Related | X(1) | Is this absence incident surgery related?  Valid Values ‘Y’=Yes or ‘N’=No |
| 23 | DH Monitoring | X(10) | Is the absence in a category being monitored by the DH?  Values will be added as required by the DH.  There are currently no valid values (as of the release date 26-Mar-2011). A list of valid values will be supplied when this comes into use. The list will have codes and meanings, the code should be used in this file. |
| 24 | Level 2 Sickness Reason | X(80) | Level 2 Sickness Absence Reason  See SART list above (in attached spreadsheet, Meaning is required).  These values are only valid for sickness absences and the first three characters must match the first 3 characters of the Absence Reason. |
| 25 | HR Intervention | X(1) | Has there been a HR Intervention?  Valid Values ‘Y’=Yes or ‘N’=No |
| 26 | HR Intervention Date | X(8) | Date YYYYMMDD  Date of the HR intervention |
| 27 | HR Manager | X(30) | Employee number of the HR Manager. This must be for a current employee in ESR as at the HR Intervention Date. HR Intervention Date is required if this value is supplied (but this value can be null where HR Intervention Date is supplied). |
| 28 | Final Interview Date | X(8) | Date YYYYMMDD  Date of Final Interview |
| 29 | AfC First Period Hours Override | N(8,2) | Override amount in hours for AfC Average calculation to pay for the first part period of an Absence. |
| 30 | AfC Last Period Hours Override | N(8,2) | Override amount in hours for AfC Average to pay for the last part period of an Absence. |
| 31 | Working Days Lost | N(8,2) | The cumulative number of Working Days Lost due to the absence. This value is optional and is used for reporting purposes only. |
| 32 | Assessment Date | X(8) | Date YYYYMMDD  Date of Assessment |

### Footer Record

The footer record must be the last record of the file. There should be one and only one footer record.

| Item No. | Data Item | Data Format | Comments |
| --- | --- | --- | --- |
| 0 | Record Type | X(3)+ | A constant value set to ‘FTR’. |
| 1 | Detailed Record Count | N(7)+ | Record count excluding the file header and footer records. |
| 2 | Hash Total | N(10,4)+ | Hash Totals of the detail records. This is the combined total of the ‘Duration Days’ and ‘Duration Hours’ values for all of the Absence records supplied. |

# Non Functional Qualities

## Delivery Frequency

Absence files may arrive from numerous sources at anytime.

|  |  |  |
| --- | --- | --- |
| File Name | Transfer Frequency | Comments |
| AB\_TTT\_SYS\_PRYYNN\_99999999.DAT | Ad-hoc Basis | The ESR hub regularly polls source systems and the NHS hub for the presence of new files and copies them to itself when it finds them. When the files are actually made available on the source system is dependent of the procedures and processes specific to that system. |

## Volumes and Sizes

There is no maximum limit to the Absence file size. The average size of a record varies according to the record type. The table below shows the assumptions used for record size and volume.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Estimations per Person per Year** | | | |
| **Record Type** | **Average Record Length** | **No. Of Records Sent** | **Total** | **Total Records/Year for all Employees (Millions)** |
| Absence | 120 | 10 | 1200 | 12.0 |
| **Total** | **120** | **10** | **1200 Bytes** | **18.12** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| File Name | (1) Average No. Of records per day | (2) Maximum No. Of records per day | (3) Average No. Of Records per week | (4) Maximum No. Of Records per week | (5) Average File Size | (6) Maximum File Size |
| AB\_TTT\_SYS\_PRYYNN\_99999999.DAT | ~75 | 150 | 375 | 750 | 9KB | 18KB |
| Total File Size (all 650 Trusts) | 48750 | 97500 | 243750 | 487500 | 5850KB | 5850KB |
| **Totals per Year** | 12.187M | 24.375M | 60.937M | 121.875M | 1,462MB | 1,462MB |

The above figures are derived assuming,

(1 - 6) An average record is considered to be a single logical record of 1200 bytes as calculated in table above: *Estimations per Person per Year.*

(1 & 3) Based on 650 Trusts with a grand total of 1,200,000 persons per year, 250 business days per year

(2 & 4) Avg. number of records x 2

(5 & 6) 120 Bytes per record x Number Of Records / 650 Trusts

## Timings and Scheduling

File arrival times are outside the control of the ESR service and may arrive at any time. Once a file has arrived on the ESR server its actual upload processing is user-initiated and may also occur at any time.

## Exception Handling

The errors outlined above both structural in nature and as a result of data content, are reported to the user via the process error logs. With the rare but possible exception of a program failure, the success or failure of the file load is the responsibility of the Trust and the external system provider.

# Assumptions, Omissions, and Forecast Changes

## Assumptions

Following assumptions have been made

* The “*External Absence Reference*” field is unique across all external systems which collect absence data for the Trust and send it to ESR. Since absences could be received from multiple sources for the same Trust, the Trust and external system suppliers together must guarantee that their identifiers do not clash with one another. It may be a useful precaution to prefix the “External Absence Reference” field with a Source System Code.

## Omissions

None.

## Forecast Changes

None.

## Open Issues

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Issue | Resolution | Responsibility | Impact Date |
|  |  |  |  |  |
|  |  |  |  |  |

## Closed Issues

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Issue | Resolution | Responsibility | Impact Date |
|  |  |  |  |  |
|  |  |  |  |  |