

**REF 2021 submission system validation rules**

**Updated December 2020**

This document is aimed at supporting institutions importing data into the REF 2021 submission system and is not intended to be a policy guidance document. For policy guidance on REF 2021 please see [https://ref.ac.uk/guidance/](https://ref.ac.uk/guidance/submission-system-data-requirements/) .

This document lists all validation rules that are enforced when importing data into the REF 2021 submission system either using the web user interface or the API. Field names are as listed in the [published data requirements](https://ref.ac.uk/guidance/submission-system-data-requirements/).

**Revision history**

|  |  |  |  |
| --- | --- | --- | --- |
| **Section** | **Page** | **Change** | **Date changed** |
| n/a | n/a | First draft | February 2020 |
| Research Outputs (REF2), Impact case studies (REF3), Institutional level environment template (REF5a) | Multiple | Added guidance regarding COVID changes & fields | September 2020 |
| Research Outputs (REF2) | Multiple | Minor changes made to “Warning” messages for Output COVID validation messages. | November 2020 |
| Research Outputs (REF2) | 17 | Added "Media of Output" | December 2020 |

## Validation rule levels

The validation rules for each field are divided into up to three parts:

Save – The record cannot be imported if any of these rules are broken.

Submission – The record can be imported if any of these rules are broken but the problem must be resolved in order for the institution to submit to REF 2021.

Warning – The field is acceptable for submission to REF 2021 but you may want to check that it is correct.

## Data types

The following table describes each data type. Where Save/Submission/Warning is stated, this indicates whether providing an invalid value will result in a save error, a submission error or a warning for the field:

|  |  |
| --- | --- |
| **Data type** | **Comments** |
| Text (maximum characters) | Any text up to the given length. |
| Text (Save/Submission/Warning)   * Value1 * Value2 * Value3 | Any of the given values only. |
| Text (A-E, Save/Submission/Warning) | Any capital letter from A to E inclusive. |
| Integer (x to y, Save/Submission/Warning) | Any whole number between x and y inclusive. |
| Number (x to y, Save/Submission/Warning) | Any number between x and y inclusive. The number of expected decimal places will be indicated e.g. 1.00-5.00 indicates two decimal places. |
| Boolean | One of: true, false, yes, no.  If a Boolean field is marked as mandatory this means that one of the four values must be provided; it doesn’t mean the value must be positive (yes or true).  Validation rule descriptions below will use the words ‘true’ and ‘false’ rather than ‘yes’ and ‘no’. |
| Date | Date fields should be formatted as a date in an Excel file.  Dates imported using XML or JSON should be in the format ‘YYYY-MM-DD’ e.g. 2nd Jan 2013 = ‘2013-01-02’. |
| Binary | Binary data, typically used to represent a file. Only supported by XML and JSON and the data must be BASE64 encdoed. |

## Structure of the validation report

The validation report for an import or validation job may contain some error messages that will enable you to identify where data is invalid for submission. The report will contain, for each error, the UOA, the form, the record where the error occurs, the type of error (Save / Submit / Warning) and the description of the error.

## Common fields

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| Institution | Text (8) | Save  Mandatory.  Must match the UKPRN of the importing institution. |  |
| unitOfAssessment | Integer (1 to 34, Save) | Save  Mandatory.  There must be an existing submission in the given UOA for the importing institution. | Annex D |
| multipleSubmission | Text (1) | Save  If provided, the value must match a multiple submission identifier in the given UOA for the importing institution. If not provided then there must be a single submission in the given UOA for the importing institution. | Paragraph 73 |

## Research groups

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| code | Text (1) | Save  Mandatory.  Any single letter or digit (a lower case letter will be stored in upper case). Must not be duplicated in the submission. |  |
| name | Text (128) | Save  Mandatory. Must not be duplicated in the submission. |  |

## Research staff (REF1a)

If neither hesaStaffIdentifier nor staffIdentifier are provided a new staff member will not be created on import. If two or more REF1a records in the same import file have the same hesaStaffIdentifier or the same staffIdentifier then the record that appears closest to the end of the file will overwrite any conflicting details in the first records.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| hesaStaffIdentifier | Text (13) | Save  Must not be duplicated within the submission.  Submission  Must not be duplicated within the institution.  Must be in the form XXDDDDDDDDDDC (X=any digit or X, D = any digit, C = check digit) and the check digit must be valid; see [HESA website](https://www.hesa.ac.uk/collection/c18025/a/staffid) for more detail. |  |
| staffIdentifier | Text (24) | Save  Mandatory if hesaStaffIdentifier is not provided.  Only collected for staff where there is no HESA identifier at the point of submission.  Must not be duplicated within the submission. |  |
| surname | Text (64) | Submission  Mandatory. |  |
| initials | Text (12) | Submission  Mandatory. |  |
| dateOfBirth | Date | Submission  Mandatory  Must be between 01/01/1920 and 01/08/1999 inclusive. |  |
| Orcid | String (37) | Submission  The ORCID should not begin with [**https://orcid.org/**](https://orcid.org/), as the submission system will add the prefix. Must be a valid ORCID with correct checksum. |  |
| contractedFte | Number (0 to 9.99, Save) (0.20 to 1.00, Submission) | Submission  Mandatory |  |

|  |  |  |  |
| --- | --- | --- | --- |
| researchConnection | Text (7,500) | Submission  Mandatory if FTE is between 0.2 and 0.29 | See Guidance on Submissions paragraphs 123 to 127. |
| reasonsForNoConnectionStatement | Text | Submission  Mandatory if researchConnection is not completed and FTE is between 0.2 and 0.29  One or more of  CaringResponsibilities,  PersonalCircumstances,  ApproachingRetirement,  DisciplinePractice | See Guidance on Submissions paragraphs 123 to 127. |

|  |  |  |  |
| --- | --- | --- | --- |
| isEarlyCareerResearcher | Boolean | Submission  Mandatory if no HESA ID provided. | Paragraphs 146-148 |
| isOnFixedTermContract | Boolean | Submission  Mandatory |  |
| contractStartDate | Date | Submission  Mandatory if isOnFixedTermContract set to true.  Must not be provided if isOnFixedTermContract set to false.  Must be on or before 31/07/2020. |  |
| contractEndDate | Date | Submission  Mandatory staff if isOnFixedTermContract set to true.  Must not be provided if isOnFixedTermContract set to false.  Must be on or after 31/07/2020.  contractEndDate cannot be before the contractStartDate. |  |
| isOnSecondment | Boolean | Submission  Mandatory |  |
| secondmentStartDate | Date | Submission  Mandatory if isOnSecondment set to true.  Must not be provided if isOnSecondment set to false.  Must be between 31/07/2018 and 31/07/2020 inclusive.  Must not be more than two years before secondmentEndDate. |  |
| secondmentEndDate | Date | Submission  Mandatory if isOnSecondment set to true.  Must not be provided if isOnSecondment set to false.  Must be between 31/07/2020 and 31/07/2022 inclusive.  Must not be more than two years after secondmentStartDate  secondmentEndDate must not be before the secondmentStartDate. |  |
| isOnUnpaidLeave | Boolean | Submission  Mandatory |  |
| unpaidLeaveStartDate | Date | Submission  Mandatory if isOnUnpaidLeave set to true.  Must not be provided if isOnUnpaidLeave set to false.  Must be between 31/07/2018 and 31/07/2020 inclusive.  Must not be more than two years before unpaidLeaveEndDate. |  |
| unpaidLeaveEndDate | Date | Submission  Mandatory if isOnUnpaidLeave set to true.  Must not be provided if isOnUnpaidLeave set to false.  Must be between 31/07/2020 and 31/07/2022 inclusive.  Must not be more than two years after unpaidLeaveStartDate.  unpaidLeaveEndDate must not be before unpaidLeaveStartDate. |  |
| ResearchGroup1 | Text (1) | Save  Must match the code for a research group in the same submission as the staff member, otherwise the value will be ignored.  Submission  The research group must not be repeated in the same staff member. |  |
| ResearchGroup2 | Text (1) |  |
| ResearchGroup3 | Text (1) |  |
| ResearchGroup4 | Text (1) |  |

## Former staff(REF1b)

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Data Type** | **Validation rules** | **GoS reference** |
| staffIdentifier | Text (24) | Save  Mandatory.  Must not be duplicated within the submission. |  |
| Surname | Text (64) | Submission  Mandatory. |  |
| Initials | Text (12) | Submission  Mandatory. |  |
| dateOfBirth | Date | Submission  Mandatory  Must be between 01/01/1920 and 01/08/1999 inclusive. |  |
| Orcid | Text (37) | Submission  The ORCID should not begin with [**https://orcid.org/**](https://orcid.org/), as the submission system will add the prefix. Must be a valid ORCID with correct checksum.Must be 37 characters |  |
| excludeFromSubmission | Boolean | Submission  Must be set to false before submission. |  |

### Former staff employment record (contract)

1. For each former staff member this information may be repeated for each employment record (contract). For the non-hierarchical file formats the staff identifier fields from the **Former staff** table will be included in the table as well.

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Data Type** | **Validation rules** | **GoS reference** |
| hesaStaffIdentifier | Text (13) | Save  Must not be duplicated within the submission.  Submission  Must not be duplicated within the institution.  Must be in the form XXDDDDDDDDDDC (X=any digit or X, D = any digit, C = check digit) and the check digit must be valid; see [HESA website](https://www.hesa.ac.uk/collection/c18025/a/staffid) for more detail. |  |
| contracedtFTE | Number (0 to 9.99, Save) (0.20 to 1.00, Submission) | Submission  Mandatory |  |
| researchConnection | Text (7,500) | Submission  Mandatory if FTE is between 0.2 and 0.29 | See Guidance on Submissions paragraphs 123 to 127. |
| reasonsForNoConnectionStatement | Text | One or more of  CaringResponsibilities,  PersonalCircumstances,  ApproachingRetirement,  DisciplinePractice | See Guidance on Submissions paragraphs 123 to 127. |
| startDate | Date | Submission  Mandatory  Must be before the endDate |  |
| endDate | Date | Submission  Mandatory  Must be between 1/1/2014 and 30/07/2020 (inclusive).  endDate cannot be before the startDate. |  |
| isOnSecondment | Boolean | Submission  Mandatory |  |
| secondmentStartDate | Date | Submission  Mandatory if isOnSecondment set to true.  Must not be provided if isOnSecondment set to false.  Must not be more than two years before secondmentEndDate. |  |
| secondmentEndDate | Date | Submission  Mandatory if isOnSecondment set to true.  Must not be provided if isOnSecondment set to false.  Must be between 1/1/2014 and 30/07/2020 (inclusive). Must not be more than two years after secondmentStartDate secondmentEndDate must not be before the secondmentStartDate. |  |
| isOnUnpaidLeave | Boolean | Submission  Mandatory |  |
| unpaidLeaveStartDate | Date | Submission  Mandatory if isOnUnpaidLeave set to true.  Must not be provided if isOnUnpaidLeave set to false. Must not be more than two years before unpaidLeaveEndDate. |  |
| unpaidLeaveEndDate | Date | Submission  Mandatory if isOnUnpaidLeave set to true.  Must not be provided if isOnUnpaidLeave set to false.  Must be between 1/1/2014 and 30/07/2020 (inclusive).  Must not be more than two years after unpaidLeaveStartDate.  unpaidLeaveEndDate must not be before unpaidLeaveStartDate. |  |
| ResearchGroup1  ResearchGroup2  ResearchGroup3  ResearchGroup4 | Text (1)  Text (1)  Text (1)  Text (1) | Save  Must match the code for a research group in the same submission as the staff member, otherwise the value will be ignored.  Submission  The research group must not be repeated in the same staff member. |  |

## Research outputs (REF2)

A submission warning will be produced if a staff member does not have an output and does not have a request to remove the requirement of the minimum of one.

A submission error will be produced if a staff member has more than 5 outputs.

A submission error will be produced if there are more that the required number of outputs, taking into account any requests to remove the miminum of one or to reduce the number of outputs required.

A warning will be produced if there are less than the required number of outputs.

A submission error will be produced if an output of any of the following types has no PDF associated with it:

* D – Journal article
* E – Conference proceeding
* G – Software
* S - Research datasets and databases
* U – Working paper
* M – Exhibition
* Q – Digital or visual media
* T – Other

For types D and E, if the REF team has not been able to download a PDF for the output then the PDF must be uploaded manually via REF2 on the submission system website or using the submission system web service by the submission deadline (noon 31 March 2021).

For all other types listed above, a PDF for the output must be uploaded manually via REF2 on the submission system website or using the submission system web service by the submission deadline (noon 31 March 2021).

Some of the above submission errors will only appear in the full Submit validation process which will precede final submission.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| outputIdentifier | Text (24) | Save  Mandatory.  Must not be duplicated within the submission. |  |
| webOfScienceIdentifier | Text(20) |  |  |
| outputType | Text (A-V) | Save  Mandatory. |  |
| title | Text (7,500) | Submission  Mandatory. |  |
| place | Text (256) | Submission  Mandatory if outputType is one of: L, P, I, M, S and isPendingPublication is false.  Warning  Should not be provided if outputType is one of: A, B, C, R, D, E, U, F, N, O, K, J, H, G, V  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| publisher | Text (256) | Submission  Mandatory if outputType is one of: A, B, C, U, N, O, G, T.  Warning  Should not be provided if outputType is one of: D, E, L, M, I, F, K, J, S, H.  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| volumeTitle | Text (256) | Submission  Mandatory if outputType is one of: C, R, D, E.  Warning  Should not be provided if outputType is one of: A, N, U, L, P, M, I, F, O, K, J, Q, S, H, G, T.  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| volume | Text (16) | Submission  Mandatory if outputType is D.  Warning  Should not be provided if outputType is not D or E.  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| issue | Text (16) | Warning  Should not be provided if outputType is not D or E.  Not required for a COIVD-19 delayed output |  |
| firstPage | Text (8) | Submission  Mandatory if outputType is D, isPendingPublication is false and articleNumber is not provided.  Mandatory if outputType is E.  Warning  Should not be provided if outputType is not D or E.  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| articleNumber | Text (32) | Submssion  Mandatory if outputType is D, isPendingPublication is false and firstPage is not provided.  Warning  Should not be provided if outputType is not D.  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| isbn | Text (24) | Submission  Mandatory if outputType is A, B or C and isPendingPublication is false.  Warning  Should not be provided if outputType is one of: D, E, U, L, P, M, I, F, N, O, K, J, Q, S, H, G, T.  Should be in one of the following forms (any dashes or spaces included will be ignored):  DDDDDDDDDX  DDDDDDDDDDDDD  (X=any digit or X, D = any digit).  The final character is a check digit; a warning will be produced if it is not valid. See <http://isbn-information.com/10-digit-isbn.html> for details of how the check digit is calculated for a 10 digit ISBN and <http://isbn-information.com/isbn-check-digit.html> for a 13 digit ISBN.  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| issn | Text (24) | Submission  Mandatory if outputType is D and isPendingPublication is false.  Warning  Should not be provided if outputType is not D or E.  Should be in the following form (any dashes or spaces included will be ignored):  DDDDDDDX  (X=any digit or X, D = any digit).  The final character is a check digit; a warning will be produced if it is not valid.  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| doi | Text (1024) | Please do not include a prefix i.e. http://dx.doi.org/  Submission  Must be in the form:  10.DDDDD/anycharacter  (D = any digit, anycharacter = any number of characters that can be used in a URL).  Warning  Should not be provided if outputType is one of: U, L, P, M, I, F, O, K, J, Q, H, G.  Should be provided if available and outputType is D or E. |  |
| openAccessStatus | Text | Submission  Mandatory for type D.  Mandatory for type E if ISSN entered  Warning  Must not be supplied for outputTypes that aren’t D or E  Values from:  Compliant  NotCompliant  DepositException  AccessException  TechnicalException  OtherException  OutOfScope  ExceptionWithin3MonthsOfPublication |  |
| patentNumber | Text (24) | Submission  Mandatory if outputType is F and isPendingPublication is false.  Warning  Should not be provided if outputType is not F.  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| month | Text (One of 1 – 12 or January – December or Jan – Dec) | Submission  Mandatory for outputs linked to former staff members  Warning  Not required if output is linked to former staff member | See Guidance on Submissions paragraph 264b. |
| year | Text (Submission):   * 2014 * 2015 * 2016 * 2017 * 2018 * 2019 * 2020 * 2021 | Submission  Mandatory  Must be 2021 or blank if isDelayedByCovid19 is checked  Warning  If Year is not provided for a COVID-19 delayed output |  |
| url | Text (1024) | Submission  Mandatory if outputType is H and isPendingPublication is false.  Warning  Should start with one of: http://, https://, ftp://.  Not required for output type O  If not supplied for a COVID-19 delayed output, a Warning will be displayed. |  |
| isPhysicalOutput | boolean | Submission  Mandatory for all types, default choice is: TRUE  Must be FALSE if URL has been provided  Warning  Not required for output types D |  |
| numberOfAdditionalAuthors | Integer (0 to 9999, Submission)  (-32768 to 32767, Save) |  | paragraphs 268 to 272. |
| isPendingPublication | Boolean | Submission  Must not be provided. Pending publication provisions no longer apply | <https://ref.ac.uk/media/1417/guidance-on-revisions-to-ref-2021-final.pdf> paras 44-45). |
| pendingPublicationReserve | Text (24) | Submission  Must not be provided. Pending publication provisions no longer apply | <https://ref.ac.uk/media/1417/guidance-on-revisions-to-ref-2021-final.pdf> paras 44-45). |
| isForensicScienceOutput | Boolean |  | Paragraphs 275 and 276. |
| isCriminologyOutput | Boolean |  | Paragraphs 277 and 278. |
| isNonEnglishOutput | Boolean |  | Paragraphs 285 to 287 |
| englishAbstract | Text (7,500) | Submission  Mandatory if isNonEnglish is true  Maximum 100 words. |  |
| isInterdisciplinary | Boolean |  | Paragraphs 273 and 274 |
| proposeDoubleWeighting | Boolean |  | Paragraphs 279 to 283 |
| doubleWeightingStatement | Text (7,500) | Submission  Mandatory if proposeDoubleWeighting is true.  Must not be provided if proposeDoubleWeighting is false.  Maximum 100 words. |  |
| doubleWeightingReserve | Text | Save  Output identifier must match an output in the same submission.  Submission  Must not be provided if proposeDoubleWeighting is false.  Must not identify a double-weighted or pending publication output.  Must not identify an output that is a reserve for another double-weighted or pending publication output. |  |
| conflictedPanelMembers | Text (512) | Warning  Should not be provided if outputType is not O. | Paragraphs 261 to 263 |
| crossReferToUoa | Integer (1 to 34, Save) | Submission  Must identify a different unit of assessment to the one that the output belongs to. | Paragraphs 399 to 404 |
| additionalInformation | Text (7,500) | Submission  100 additional words allowed if doesIncludeSignificantMaterialBefore2014 is true  300 additional words allowed if . doesIncludeResearchProcess  100 additional words allowed if doesIncludeFactualInformationAboutSignificance is true (UOAs 11 and 12 only) | See Para 284 for further information |
| isDelayedByCovid19 | Boolean |  | <https://ref.ac.uk/media/1417/guidance-on-revisions-to-ref-2021-final.pdf> paras 28-40 |
| covid19Statement | Text (100) | Submission  Maximum 100 words. | <https://ref.ac.uk/media/1417/guidance-on-revisions-to-ref-2021-final.pdf> paras 28-40 |
| doesIncludeSignificantMaterialBefore2014 | Boolean |  |  |
| doesIncludeResearchProcess | Boolean |  |  |
| doesIncludeFactualInformationAboutSignificance | Boolean | Save  Must not be checked for any UOA outside of 11 & 12 |  |
| outputAllocation1 | Text(128) | Submission  Must be provided for UOAs 7, 10, 11, 12, 26, 27, 28, 29, 33 and 34.  Must not be provided for any UOA other than 7,10, 11, 12, 26, 27, 28, 29, 33 and 34.  Must be one of the expected output allocation categories for UOAs 7, 11, 12, 26, 27, 28, 29, 33 and 34. | See output allocation guidance at <http://www.ref.ac.uk/guidance/additional-guidance/>for more information. |
| outputAllocation2 | Text(128) | Submission  Must be provided for UOA 26.  Must not be provided for any UOA other than 10, 12 and 26.  Must be one of the expected output allocation categories for UOA 12 or 26. Must not be the same as outputAllocation1 or outputAllocation3 for UOA 12. | As above see output allocation guidance at <http://www.ref.ac.uk/guidance/additional-guidance/> for more information. |
| outputAllocation3 | Text(128) | Submission  Must not be provided for any UOA other than 12. Must be one of the allocation categories for UOA 12. Must not be the same value as outputAllocation1 or outputAllocaiton2. | As above see output allocation guidance at <http://www.ref.ac.uk/guidance/additional-guidance/> for more information. |
| outputSubProfileCategory | Text(128) | Submission  Must not be provided for any UOAs other than 3 and 12.  Must be one of the output sub-profile categories. | See panel criteria and working methods paragraphs 181 and 183. |
| SupplementaryInformation | Text(1024) | Warning  Can only be supplied for output types D and E  Must be a URL or a DOI  If DOI, must be in the form:  10.DDDDD/anycharacter  (D = any digit, anycharacter = any number of characters that can be used in a URL).  If URL, should start with one of: http://, https://, ftp://. | See paragraph 88a for more information |
| mediaOfOutput | Text(256) | Must be used to describe the version of electronic output being returned where not possible to submit the final version in electronic form. E.g. “Proof”, “Author Accepted Manuscript”.  Save  Must not exceed 264 characters in length | See updated invitiation to submit to REF 2021 as PDF at: <https://ref.ac.uk/publications/updated-invitation-to-submit-to-ref-2021/> for more information. |

### Link between staff and outputs

This table links staff to outputs, so the submission system can check the numbers of output submitted per staff member.

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Validation** | **GOS reference** |
| hesaStaffIdentifier | Text(13) | Save  Must be one of the stored hesaStaffIdentifer from REF1a or REF1b in the same submission  Must not be provided if staffIdentifer provided. |  |
| staffIdentifer | Text (24) | Save  Must be one of the stored staffIdentifer from REF1a or REF1b in the same submission  Must not be provided if hesaStaffIdentifer provided. |  |
| outputIdentifier | Text (24) | Save  Must be one of the stored outputIdentifers from REF2 |  |
| researchGroup | Text (1) | Save  Must exist in the submission  Submission  Must be one of the research groups the staff member belongs to |  |
| authorContributionStatement | Text (7,500) | Submission  Must not exceed 100 words. | See Panel Criteria and Working Methods p42 |
| isAdditionalAttributedStaffMember | Boolean |  | A value indicating whether this staff member is an additional attributed staff member for a double weighted output or an output submitted to main panel D. |

## Impact case studies (REF3)

Fields of type binary will only be supported in some of the file formats. Text based file formats (XML and JSON) for example will require the binary data to be BASE64 encoded.

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Validation** | **GOS reference** |
| caseStudyIdentifier | Text (24) | Save  Mandatory  Must be unique in the submission |  |
| Title | Text (256) | Submission  Mandatory |  |
| redactionStatus | Text | Submission  Mandatory. One of:  NotRedacted,  RequiresRedaction,  NotForPublication |  |
| conflictedPanelMembers | Text (512) | Warning  Should not be provided if redactionStatus is NotRedacted. |  |
| caseStudyPdf | Binary | Save  Must be a PDF file no larger than 10Mb.  Submission  Mandatory.  Must not contain more than five pages. |  |
| redactedCaseStudyPdf | Binary | Save  Must be a PDF file no larger than 10 Mb.  Warning  Must be provided by 01 June 2021 if redactionStatus is RequiresRedaction.  Should not be provided if redactionStatus is not RequiresRedaction. |  |
| caseStudyDocument | Binary | Save  Must be a Word file no larger than 10 Mb.  Submission  Mandatory unless redactionStatus is‘NotForPublication’  Warning  Must be provided by 01 June 2021 |  |
| crossReferToUoa | Integer (1 to 34, Save) | Submission  Must identify a different unit of assessment to the one that the case study belongs to. |  |
| corroboratingEvidence | Binary | Save  Must be a zip file no larger than 100MB.  Warning  Must be provided before 01 June 2021 |  |
| IsCovid19StatementNotForPublication | Boolean | Submission  Must not be true if Covid19Statment is blank | <https://ref.ac.uk/media/1417/guidance-on-revisions-to-ref-2021-final.pdf>paras 53-62 |
| Covid19Statement | Text (100) | Submission  Maximum 100 words | <https://ref.ac.uk/media/1417/guidance-on-revisions-to-ref-2021-final.pdf>paras 53-62 |

### Impact case study additional contextual data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field name** | | **Type** | **Validation** | **GoS Reference** |
| grantsFunding | number | Text (256) |  |  |
| amount | Integer (0 to 150,000,000, Submission)  (-2,147,483,648 to  2,147,483,647, Save) |  |
| nameOfFunders | | Text (256) |  |  |
| globalResearchIdentifiers | | Text (256) |  |  |
| fundingProgrammes | | Text (256) |  |  |
| researcherOrcids | | Text (37) | Submission  The ORCID should not begin with [**https://orcid.org/**](https://orcid.org/), as the submission system will add the prefix. Must be a valid ORCID with correct checksum.Must be 37 characters |  |
| formalPartners | | Text (256) |  |  |
| Countries | | Text (256) |  |  |

### Impact case study contacts

For each impact case study this information may be repeated for each contact. For the non-hierarchical file formats the case study identifier field from the **Impact case study** table will be included on the table as well.

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Validation** | **GoS Reference** |
| Number | Number (1-5) | Save  Mandatory  Between 1 and 5 |  |
| Name | Text (64) | Submission  Mandatory |  |
| jobTitle | Text (64) | Submission  Mandatory |  |
| emailAddress | Text (128) | Save  Must be structured as a valid e-mail address.  Submission  Mandatory if no Phone number  Must not match the alternateEmailAddress |  |
| alternateEmailAddress | Text (128) | Save  Must be structured as a valid e-mail address.  Submission  Must not match the emailAddress |  |
| Phone | Text (24) | Submission  Mandatory if no email Address |  |
| Organisation | Text (128) | Submission  Mandatory |  |

## Research doctoral degrees awarded (REF4a)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| year | One of the values (Save):   * 2013 * 2014 * 2015 * 2016 * 2017 * 2018 * 2019 | Save  Mandatory. |  |
| degreesAwarded | Number (0.00 to 9999.99, Submission)  (-9999.99 to 9999.99, Save) |  |  |

## Research income (REF4b)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| source | Integer (1 to 15, Save)  1 : BEIS Research Councils, The Royal Society, British Academy and The Royal Society of Edinburgh  2 : UK-based charities (open competitive process)  3: UK-based charities (other)  4 : UK central government bodies, local authorities, health and hospital authorities  5: UK central government tax credits for research and development expenditure  6 : UK industry, commerce and public corporations  7: UK government bodies  8 : EU government bodies  9 : EU-based charities (open competitive process)  10 : EU industry, commerce and public corporations  11 : EU (excluding UK) other  12 : Non-EU based charities (open competitive process)  13: Non-EU industry, commerce and public corporations  14 : Non-EU other  15: Health research funding bodies | Save  Mandatory.  15 is only valid within Main Panel A (UOAs 1 to 6). | Paragraph 172 |
| Income2013 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2014 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2015 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2016 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2017 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2018 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2019 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |

## Research income in kind (REF4c)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| source | Integer (16 to 17, Save)  16 : Research Counciles income-in-kind  17: Health research funding bodies income-in-kind | Save  Mandatory.  17 is only valid within Main Panel A (UOAs 1 to 6). | Paragraph 172 |
| Income2013 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2014 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2015 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2016 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2017 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2018 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |
| Income2019 | Integer (-10,000,000 to 150,000,000, Submission)  (-2,147,483,648 to 2,147,483,647, Save) |  |  |

## Validation of REF4a/b/c totals

The total number of research degrees awarded, the total research income and the total research income-in-kind will be validated against the numbers held by HESA (or the research councils / health research funding bodies for income-in-kind) during bulk validation, but **not** on import. The REF submission system is set to limit the difference between the data returned in submissions by your institution and the corresponding data extracted from HESA or provided by UKRI or the UK health research funding bodies. The tolerance limits of the submission system apply at the institutional level.

Validation errors will be prompted in the submission system if:

a. The total number of research degrees awarded submitted by the institution as a whole exceeds the total number of degrees awarded provided in HESA student record by more than 20 awards and 5% over the period 2013-14 to 2018-19.

b. The total number of research degrees awarded submitted by the institution as a whole exceeds the total number of degrees awarded provided in HESA student record by more than 10 awards and 10% in any academic year between 2013-14 and 2018-19.

c. The total amount of research income submitted by the institution as a whole exceeds the total amount of income provided in the HESA finance record by more than £200,000 and 5% over the period 2013-14 to 2018-19.

d. The total amount of research income submitted by the institution as a whole exceeds the total amount of income provided in the HESA finance record by more than £100,000 and 10% in any academic year between 2013-14 and 2018-19.

e. The total amount of research income submitted by the institution as a whole exceeds the total amount of income provided in the HESA finance record by more than £100,000 and 10% in any source of income over the period 2013-14 to 2018-19.

f. The total amount of research income-in-kind submitted by the institution as a whole exceeds the total amount of income-in-kind provided by the research councils and health research funding bodies by more than £200,000 and 5% over the period 2013-14 to 2018-19.

g. The total amount of research income-in-kind submitted by the institution as a whole exceeds the total amount of income-in-kind provided by the research councils and health research funding bodies by more than £100,000 and 10% in any academic year between 2013-14 and 2018-19.

## Institutional level environment template (REF5a)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| requiresRedaction | Boolean |  | Paragraph 359 |
| statement | Binary | Save  Must be a PDF file no larger than 10Mb.  Submission  Mandatory.  Must not contain more than the allowed word limit based on Category A submitted staff FTE in the Institution. |  |
| statementDocument | Binary | Save  Must be a Word file no larger than 10 Mb.  Submission  Mandatory |  |
| redactedStatement | Binary | Save  Must be a PDF file no larger than 10 Mb.  Warning  Must be provided before 01 June 2021 if requiresRedaction is true.  Should not be provided if requiresRedaction is not provided or false. |  |
| covid19Statement | Text (500) | Submission  Maximum 500 words |  |

## Environment template (REF5b)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| requiresRedaction | Boolean |  | Paragraph 36 |
| statement | Binary | Save  Must be a PDF file no larger than 10Mb.  Submission  Mandatory.  Must not contain more than the allowed word limit based on Category A submitted staff FTE in the submission. |  |
| statementDocument | Binary | Save  Must be a Word file no larger than 10 Mb.  Submission  Mandatory |  |
| redactedStatement | Binary | Save  Must be a PDF file no larger than 10 Mb.  Warning  Must be provided before 01 June 2021 if requiresRedaction is true.  Should not be provided if requiresRedaction is not provided or false. |  |

**Requests to remove the minimum of one requirement** **(REF6a)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Validation rules** | **GoS reference** |
| hesaStaffIdentifier | Text (13) | Save  Mandatory  Submission  Must not be duplicated within the institution.  Must be in the form XXDDDDDDDDDDC (X=any digit or X, D = any digit, C = check digit) and the check digit must be valid; see [HESA website](https://www.hesa.ac.uk/collection/c18025/a/staffid) for more detail. | paragraphs 178 to 183 |

|  |  |  |  |
| --- | --- | --- | --- |
| staffIdentifier | Text (24) | Save  Mandatory if hesaStaffIdentifier is not provided.  Only collected for staff where there is no HESA identifier at the point of submission.  Must not be duplicated within the submission. |  |
| circumstances | Text | Submission  Mandatory  One of  ECR,  SecondmentsOrCareerBreaks,  FamilyRelatedLeave,  JuniorClinicalAcademic,  RequiringJudgement | See Guidance on Submissions paragraphs 179 and 180. |
| supportingInformation | Text (7,500) | Submission  Mandatory | See Guidance on Submissions paragraphs 182. |

### Unit reduction requests (REF6b)

Multiple records may be added for a single HESA id, each record will require a unique HESA id / typeOfCircumstance pair. Guidance on the accepted combinations of circumstance types can be found in the Guidance on Submissions paragraphs 160 – 162 and annex L.

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Restrictions** | **Comments** |
| hesaStaffIdentifier | Text (13) | Save  Mandatory  Submission  Must not be duplicated within the institution.  Must be in the form XXDDDDDDDDDDC (X=any digit or X, D = any digit, C = check digit) and the check digit must be valid; see [HESA website](https://www.hesa.ac.uk/collection/c18025/a/staffid) for more detail. |  |
| staffIdentifier | Text (24) | Save  Mandatory if hesaStaffIdentifier is not provided.  Only collected for staff where this no HESA identifier at the point of submission.  Must not be duplicated within the submission | Only required if there is no HESA staff identifier. |
| typeOfCircumstance | Text | Submission  Mandatory  One of  ECR,  SecondmentsOrCareerBreaks,  FamilyRelatedLeave,  JuniorClinicalAcademic,  RequiringJudgement | See Guidance on Submissions paragraphs 160 to 162. |
| tariffBand | Integer (0-3, Save) | Submission  Mandatory | Should map to the rows of Table 1 or Table 2 in the annex L of the Guidance on Submissions for the circumstance being claimed. |
| supportingInformation | text (7,500) | Submission  Mandatory if typeOfCircumstance is RequiringJudgement | See Guidance on Submissions paragraph 193. |

### Unit rationale statement

|  |  |  |  |
| --- | --- | --- | --- |
| **Field name** | **Type** | **Restrictions** | **Comments** |
| unitRationaleStatement | Text (7,500) | Submission  Mandatory  Maximum length 300 words | See Guidance on Submissions paragraph 177. |