



ARP User Guide for Neutron and Deuteration Proposal Submissions

Purpose

This guide provides information to Australian Centre for Neutron Scattering (ACNS) and National Deuteration Facility (NDF) users regarding submission of all proposal types (Neutron, Deuteration / Neutron, Deuteration) for merit access to ACNS and NDF capabilities through the ANSTO Research Portal (ARP).

For further information, contact user.office.nsw@ansto.gov.au

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1. ANSTO Research Portal

Access to the [Australian Centre for Neutron Scattering \(ACNS\)](#) and the [National Deuteration Facility \(NDF\)](#) will be through the ANSTO Research Portal (ARP). Using the tabs/links provided in the ARP, access to specific proposal types will be available – Neutron (Normal), Neutron Program, Deuteration / Neutron (combined for experiments requiring access to both NDF and the Australian Centre for Neutron Scattering – ACNS), Deuteration, Deuteration / Neutron Program (for NDF and ACNS) and Deuteration Program.

The ACNS Customer Portal will eventually be phased from use and all data will be transferred to the ARP during a later phase of the transition. Until this occurs, approved proposals will have attending users and scheduling done through the ACNS Customer Portal.

ANSTO accepts merit access applications/proposals from researchers in universities, research organisations and industry. Merit access applications/proposals are subject to technical feasibility, safety and competitive scientific review processes.

Before starting your application, we strongly recommend you contact the relevant ACNS and NDF scientists who are expert in the capabilities or instruments you seek to access. They can:

- Work with you to develop your proposal application;
- Advise on the most appropriate capability or instrument selections; and
- Help you optimise the use of ACNS and NDF capabilities

Merit access proposals must provide enough information to address the questions and information requests during the proposal preparation and submission process to enable sufficient review.

2. User Accounts

2.1. Account registration

You must be registered in the ANSTO Research Portal to be able to submit proposals. Follow the below steps to register a new account:

1. Go to <https://portal.ansto.gov.au/>
2. Click register

The screenshot shows the ANSTO Research Portal interface. At the top, there is a blue header with the Australian Government logo, the ANSTO logo, and the text 'Research Portal'. The date and time 'Wed, 04 Aug 2021 22:41 AEST' are displayed in the top right corner. Below the header, the main content area is divided into two sections. On the left, a large 'Welcome' message is displayed, followed by the text 'to The ANSTO Research Portal.' and 'This is your gateway to all of ANSTO's research facilities and experience.' On the right, there is a 'Sign in' section with a light blue background. It contains two input fields: 'Email' and 'Password'. Below these fields are two buttons: 'Login' and 'Register'. At the bottom of the sign-in section, there is a link that says 'Forgot your password?'.

3. Enter your email address
4. Create a password
5. Verify this password

- Click register

Note: You can reuse your existing username and password for the ACNS Customer Portal when you register. You will need to set them up in ANSTO Research Portal).

The screenshot shows the ANSTO Research Portal registration form. At the top, there is a blue header with the ANSTO logo and the text 'Research Portal'. Below the header, the page title is 'Registration'. A sub-header reads 'Please enter your details below to commence the registration process'. There are three input fields: 'Email: *', 'Password: *', and 'Verify Password: *'. A blue 'Register' button is located at the bottom of the form.

You will receive an email containing an activation link to complete your account registration. An email confirmation message will appear on your screen, confirming that an email has been sent to your listed email address.

- Click the activation link provided to verify your account
- After successfully activating your account, you will see a registration confirmation message. Click on the blue 'here' to complete your registration.

2.2. User profile

After your account has been verified, you will be required to complete your user profile. Profile fields that are marked with a **red asterisk*** are mandatory and must be filled in.

To complete your user profile you must enter your:

- Personal information:** Full name, country of citizenship and gender
- Organisation information:** Mobile number and affiliated organisation. If your organisation is not displayed in the drop-down list, please enter your organisation name in the 'Add Organisation' field
- Additional information:** Email updates – tick the box if you do not want to receive emails unrelated to my proposals
- Click Submit at bottom of page when ready.

Please ensure that you provide valid and correct details as this can affect your ability to access the portal and submit future proposals. To change any information in this section, you must specify your current password. Only include a new password if you want to change it.

Registration Details

* Mandatory Information

ACCOUNT INFORMATION

Email *

When you first set up your account, you cannot edit your email address.

PERSONAL INFORMATION

Title	First Name *	Other Names	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
Last Name *	Country of Citizenship *	Gender	
<input type="text"/>	<input type="text"/>	<input type="text"/>	

ORGANISATION INFORMATION

Organisation	Add Organisation	If your organisation is not displayed in the drop-down list, please enter your organisation name in the 'Add Organisation' field.
<input type="text"/>	<input type="text"/>	
Position Title	Department	
<input type="text"/>	<input type="text"/>	
Telephone (Mobile) *	Telephone (Other)	Website
<input type="text"/>	<input type="text"/>	<input type="text"/>

Please include your country and area code in your telephone number

ADDITIONAL

Email Updates

I do NOT want to receive emails unrelated to my proposals.

2.3. Account login

1. Go to <https://portal.ansto.gov.au/>
2. Enter your email address
3. Enter your password

If someone has created an account on behalf of you, then there will be no account information associated with your details. You will need to create an account as per the previous steps.

2.3.1. Password reset

1. Click forgot your password
2. Enter your email address
3. Click reset password

If you do not receive the reset link email please contact the user.office.nsw@ansto.gov.au.

2.4. User Dashboard

When you login to the ANSTO Research Portal your user dashboard will appear. Depending on your permissions, you may see the following tabs:

- **Dashboard** - This will show your five most recent proposals submitted in the ANSTO Research Portal.
- **Proposals** - All proposals on which you are Principal Scientist, Co-proposer or Co-proposer (editor) are listed on this page. Available options (Edit, PDF, View, Copy) for each proposal are at the right-hand side of the page for each proposal.
- **Profile** - On this page you can update your password, personal information and organisation information.

ID	Round	Title	Type	Owner	Status	Actions
D/N14954	ACNS & NDF: 2023-1		Deuteration and Neutron Proposal		In Preparation	Edit View PDF Copy

3. Proposal type selection

3.1. Australian Centre for Neutron Scattering

You must select one of the below proposal types for merit access proposals to access the Australian Centre for Neutron Scattering instruments.

Proposal Type	Description
Normal	Merit access proposal for ACNS experiments within a 6-month round.
Deuteration/ Neutron	Merit access proposal for ACNS instruments and NDF capabilities where deuterated molecule/s are required for the proposed neutron experiments at ACNS.
Program Proposal- Neutron	Merit access proposal for access to one or more ACNS instruments and capabilities for a program of research of up to 3 years.
Program Proposal- Deuteration/Neutron	Merit access proposal for a program of research of up to 3 years for access to both ACNS instruments and NDF capabilities, where deuterated molecule/s are required for the proposed program of research utilising ACNS neutron instruments.

For all other proposals, please use the Legacy [ACNS Customer Portal](#).

3.2. National Deuteration Facility

You must select one of the below proposal types for merit access proposal submissions to access the National Deuteration Facility. Selection is determined by what type of isotopic labelling you intend to request provision of (deuteration only or multiple-labelled), where you intend to utilise these molecules (Australia or overseas) and how (neutron scattering, NMR or other applications).

Proposal Type	Description
Deuteration	Merit access proposal for NDF capabilities within a 6-month round. This proposal type is for overseas neutron experiments or for non-neutron applications (e.g. NMR, MS). More information on NDF user access can be found here .
Deuteration/ Neutron	Merit access proposal for ACNS instruments and NDF capabilities where deuterated molecule/s are required for the proposed neutron experiments at ACNS.
Program Proposal – Deuteration	Merit access proposal for a program of research of up to 3 years for access to NDF capabilities of biological and/or chemical deuteration or multiple isotopic labelling. This program proposal type is for overseas neutron experiments or non-neutron applications (e.g. NMR, MS).
Program Proposal- Deuteration/Neutron	Merit access proposal for a program of research of up to 3 years for access to both ACNS instruments and NDF

	capabilities, where deuterated molecule/s are required for the proposed program of research utilising ACNS neutron instruments.
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For proposal types other than merit access such as user pays/collaborative or commercial and for any enquiries, please contact the NDF via ndf-enquiries@ansto.gov.au.

4. Neutron Instrument and Deuteration Technique Selection

4.1. Australian Centre for Neutron Scattering

There are 15 neutron beam instruments, which are classified into four main groups: diffractometers, small-angle spectrometers imaging and reflectometry instruments and inelastic spectrometers. The suite of instruments and operating cabins are housed in the Neutron Guide Hall, which also accommodates sample preparation areas, laboratories and other technical support facilities.

The Australian Centre for Neutron Scattering also operates three X-ray instruments and a physical properties measurement system. Full information on the ACNS instruments and capabilities available can be found on the [Call for Proposals webpage](#).

4.2. National Deuteration Facility

The National Deuteration Facility offers the facilities, staff and expertise to produce molecules where all or part of the molecular hydrogen is in the form of the isotope deuterium (^2H). The NDF utilises chemical or biological (*in vivo*) processes/techniques for the deuteration and multiple-labelling of a broad range of molecules.

Deuteration of molecules is useful in studies investigating the relationship between molecular structure and function and where it leads to improved material properties in their end-use application. Deuteration can enhance contrast, and reduce background (from incoherent absorption) in studies using neutron scattering instruments (at ACNS for example), or using spectroscopic techniques such as Nuclear Magnetic Resonance (NMR), Infra-Red (IR) or Mass Spectrometry (MS).

Further information about NDF capabilities and examples of the types of molecules and labelling accessible can be found at the following links:

Deuteration Techniques
National Deuteration Facility Biodeuteration
National Deuteration Facility Chemical Deuteration
NDF product catalogue

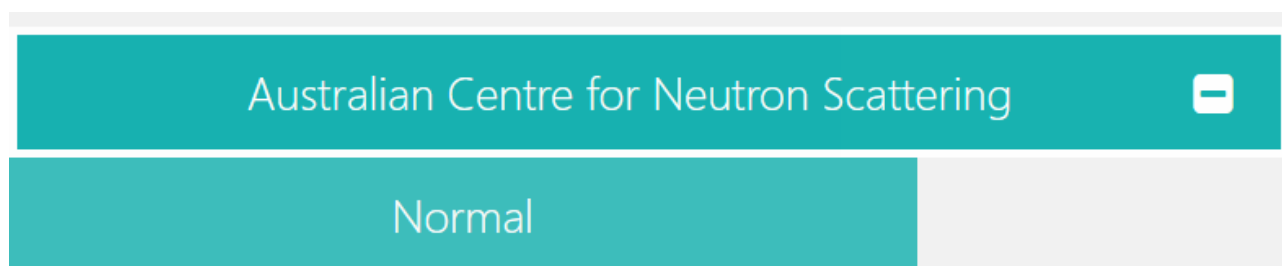
Further information about NDF user access can be found [here](#).

Enquiries can be directed to: ndf-enquiries@ansto.gov.au

5. Proposal creation: Neutron - Normal

A normal access proposal is for all merit access proposals submitted within a 6-month round. When you click the Australian Centre for Neutron Scattering (ACNS) menu, you will find a list of proposal types available. One proposal type must be selected to request access to ACNS capabilities.

1. Click the proposals tab
2. Click create new proposal
3. Click Australian Centre for Neutron Scattering
4. Select the Normal proposal access type



5. Input text into questions shown below:
 - **Proposal Title***: Please provide a short, descriptive title for your proposal. This field will not accept superscripts, subscripts, other alphabet letters etc.
 - **Proposal Type***: The proposal type defaults to the type of proposal you selected on the previous page.
 - **Proposal Round***: Only rounds that are currently open will be available and one must be selected.
 - **Principal Scientist**: select by typing surname or first name and selecting from names available.
6. Click create

Proposal Creation

Normal

Merit access proposal for ACNS experiments within a 6-month round.

Proposal Title *

Provide a short descriptive title

Proposal Type *

ACNS Normal: Peer-reviewed experiments on our neutron beam lines.

Proposal Round *

ACNS & NDF: 2023-1: (Submissions due on September 15)

Principal Scientist

Once you click create, this saves your work and takes you to the main proposal creation page.

5.1. Tab 1: Main

A table with the proposal details is visible on the first tab. This table includes details such as:

- Proposal number/ ID
- Proposal round
- Proposal type
- Proposal status

This data has been populated from the previous step and cannot be modified.

Proposal Details	
ID	N:P14952
Title	<input style="width: 90%;" type="text" value="test proposal"/>
Round	ACNS & NDF: 2023-1
Type	ACNS Normal
Status	In Preparation

5.1.1. Keywords

List up to four keywords or phrases which relate to this proposal, separated by commas. Keywords are index or subject words which help identify the proposals topic and objectives.

Keywords

List up to 4 keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

5.1.2. Collaborators

Enter the details of all researchers involved with this proposal including students. Please ensure you include all ANSTO staff who will contribute to this proposal and any people who will be associated with the outputs and outcomes of this project.

<p>Adding an existing collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator 2. Click on your collaborator's name 3. Click add user 4. Tick first time user if your collaborator is accessing ANSTO facilities for the first time 5. Select student type to indicate what level your collaborator is studying at.
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Adding a new collaborator	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator – if their name does not appear you will need to follow the below steps: 2. Click create user 3. Complete the details in the pop-up window 4. Click create
Selecting an organisation	<ol style="list-style-type: none"> 1. Enter the beginning of the name of the organisation. The closest match will appear 2. Click on the organisation name to select

Collaborators

Please enter the details of the researchers (including students) involved with this proposal. Enter the given or family name of your collaborator. Click on your collaborator's name if it appears. Click Add User. If your collaborator is not registered, click *Create User*. Complete the details in the pop-up *Add a new user* form and click *Submit* and then *Close*. Select the appropriate Role and Student Type (if applicable) and enter the student's Supervisor Name.

Please ensure you include all ANSTO staff who will contribute to this proposal and any people who will be associated with the outputs &/or outcomes of this project.

Name:

Name	Role	First Time User	Student Type	Funding Approved	
	<input type="text" value="Principal Scientist"/>	<input type="checkbox"/> First Time User	<input type="text" value="Not Applicable"/>	<input type="checkbox"/> Funding Approved	<input type="button" value="x"/>
	<input type="text" value="Co-proposer (editor)"/>	<input checked="" type="checkbox"/> First Time User	<input type="text" value="Honours"/>	<input type="checkbox"/> Funding Approved	<input type="button" value="x"/>
	<input type="text" value="Co-proposer (editor)"/>	<input checked="" type="checkbox"/> First Time User	<input type="text" value="Masters"/>	<input type="checkbox"/> Funding Approved	<input type="button" value="x"/>

Considerations



- There can be only one Principal Scientist for each proposal and only the Principal Scientist can submit a proposal.
- If you would like any of your co-proposers to be able to edit the proposal (have read and write access) please select '*Co-proposer – editor*' in the role field.
- If a person has not used the ACNS neutron instruments before, check the *First Time User* box field.
- If the person is a student, use the dropdown list to select the *Student Type* (Honours, Masters, PhD) in the field provided. If you select a Student Type, enter the student's Supervisor Name.
- It is expected that the Principal Scientist submitting the proposal has spoken with relevant ANSTO Staff about the proposal prior to submission.

5.1.3. Categorisation

Under categorisation there are a series of fields and questions that are to be completed if applicable to your proposal.

1. Enter the details for the fields below where applicable:

- **Scientific area**

Indicate in which of the given scientific areas your proposal should be reviewed.

Scientific Area
Please indicate in which of the given scientific areas your proposal should be reviewed. You can provide more details in the keyword section.

- **Intellectual Property**

Select 'yes or no' if there is intellectual property associated with this proposal. If yes, add the intellectual property details in the text box provided.

I.P. Issues

Yes
 No

Intellectual Property Details
Maximum 1000 characters

- **Student thesis**

Select 'yes or no' if this work forms a critical part of a student thesis. If yes, add the thesis details in the text box provided.

Does this form a critical part of a student thesis?

Yes
 No

Thesis Details
If so, please provide the name of the student, organisation, thesis title and expected submission date.

- **Research Funding**

Check relevant option(s) for any funding bodies who have awarded funds to this project. More than one option can be selected.

Research Funding
Name any funding bodies who have awarded funds to this project.

Internal Funding

ARC Funding

NH&MRC Funding

Industry Funding

- **Industrial Relevance and Industrial Involvement**

Select the industrial relevance category appropriate for this project.

Industrial Relevance

Industrial Involvement
Name of Company involved

2. Click **save**
3. Click **next**.

5.2. Tab 2: Science

5.2.1. Proposed Research (PDF) *

1. Upload a two-page PDF (maximum) describing your proposed research. The file must include the following information:
 - Scientific background and significance
 - Aim of the proposed experiment
 - Scientific importance of the proposed measurements
 - Detailed description of experiment (remember that referees might not be experts in the field). If requesting more than one instrument, indicate any experimental dependencies
 - Results of preliminary work carried out (e.g. using X-rays, NMR, etc.)
 - Results of previous work using neutrons (as per anonymised review guidelines)
 - Reason for choice of requested instrument/s
 - Calculation of beamtime - indicate how you calculate the requested beam time (depending on number of samples, and sample-environment conditions such as temperature, etc. for each sample),
 - Data analysis - provide an overview of how the data will be analysed.
 - References - Clearly identify documents referenced with doi if available
 - Relevant figures
2. Click upload
3. Click choose file
4. Click upload

File upload

Use the form below to upload a file. Unlike other fields, changes to files do not need to be saved.

File to upload *

No file chosen

Max file size: 3mb
Allowed formats: PDF, PNG, and JPG

5. Click **save**
6. Click **next**.

Proposed Research (PDF) *

Please upload a 2 page PDF (PORTRAIT ONLY, NOT LANDSCAPE USING A 12-POINT FONT) of your proposed research, which must include the information listed below. The maximum file size is 3MB.

- scientific background and significance
- aim of the proposed experiment
- scientific importance of the proposed measurements
- detailed description of experiment (remember that referees might not be experts in the field). If requesting more than one instrument, indicate any experimental dependencies
- results of preliminary work carried out (e.g. using x-rays, NMR, etc.)
- results of previous work using neutrons
- reason for choice of requested instrument/s
- calculation of beamtime - indicate how you calculate the requested beam time (depending on number of samples, and sample-environment conditions such as temperature, etc. for each sample),
- data analysis - provide an overview of how the data will be analysed.
- references - Clearly identify documents referenced with doi if available

No file loaded

Upload

PDF Upload Considerations

- The maximum file size is 3MB.
- Two-page maximum can be uploaded only.
- The PDF layout must be portrait only. Landscape layout is not accepted.
- 12-point font can be used only.

5.3. Tab 3: Instruments

You must select the instruments required as part of your project. Additional resources may be requested on this page for laboratories and sample environment equipment.

5.3.1. Neutron Instrument selection

1. Select neutron instrument
2. Select a specific instrument from the adjacent drop-down menu
3. Click add instrument
4. Enter the following information for the requested instrument:
 - Add the number of requested days
 - Describe the experimental setup*
 - Request a scientist
 - Add sample environment equipment
 - Add laboratory ancillaries
5. Repeat the steps above for any additional instruments
6. Click save

5.3.2. Non- Neutron Instrument selection

1. Select ACNS non- neutron instrument
2. Select a specific instrument from the adjacent drop-down menu
3. Click add instrument
4. Enter the following information for the requested instrument:
 - Add the number of requested days
 - Describe the experimental setup*
 - Request a scientist
5. Repeat the steps above for any additional non-neutron instruments
6. Click save

ACNS: Non-Neutron Instrument Imaging Ellipsometer 5 | Days ✕

Experimental Setup *
Please provide the instrumental settings you require on the instrument in order to carry out your experiment, such as resolution, wavelength, Q-range, and so on.

Scientists Requested

5.3.3. Impossible dates

Enter any impossible dates that you will not be able to perform the experiment. This applies to all instrument requests.

Impossible Dates
Applies to all instrument requests. Maximum 250 characters.

5.3.4. Laboratory Requirements

Add details about any standard laboratory chemicals and equipment you would like us to supply, including equipment needed for sample storage and preparation (inert atmosphere, refrigeration).

Laboratory Requirements
Please detail any standard laboratory chemicals and equipment you would like us to supply, including equipment needed for sample storage and preparation (inert atmosphere, refrigeration).

5.3.5. Sample Environment Requirement(s)

Describe your sample environment set up needs.

Sample Environment Requirements
Please describe your sample environment set up needs, e.g. temperature range, magnetic field range, need for electric field, in-situ requirements, need for additional equipment such as temperature baths, power supplies, etc).

5.3.6. User Supplied Equipment

Describe any equipment you will bring onsite and how any hazards will be managed.

User Supplied Equipment

Please describe any equipment you will bring onsite with you, and how any hazards will be managed.

Click **save**.

Click **next**.

5.4. Tab 4: Samples

This section provides a space for you to add samples and chemicals (such as solvents) related to your proposal. Each sample will need to be added separately and detailed sample information will need to be provided, including an SDS (where possible).

All items that are going to be irradiated in the neutron beam (for example your sample container/holder, or equipment/vessel you provide) must also be listed as a sample in this section.

By providing detail information regarding your samples will enable ANSTO to fulfil regulatory requirements and to assist the completion of a risk-based safety review of your proposal.

5.4.1. Sample Creation

1. Click create new sample
2. Enter the following information for each sample:
 - Description*
 - Sample Form* (select from drop down list)
 - Chemical Formula or Chemical Composition*
 - CAS Number
 - Hazards* (click in box, select 1 or more from drop down list)
 - Amount (mass g or volume ml)*
 - Safety Comment
 - Crystalline sample*; if yes then add lattice parameters
 - Sample prepared* (select from drop down list)
 - Date ready
 - Disposal method (select from drop down list)
 - Australian Safety Data Sheet* – file upload available
3. Click save

Samples

N:P1: Neutron Test

Previous Next Exit

Please add each sample separately. When you add a sample you will also be asked for detailed sample information and an SDS (where possible). This information allows us to fulfil our regulatory requirements and to assist the completion of a risk-based safety review of your proposal. Make sure you also add any extra samples and any other chemicals (for example: solvents) that you may be bringing with you. This ensures that we have an SDS for every chemical brought to ANSTO. All items that are going to be irradiated in the neutron beam (e.g. your sample container/holder, or equipment/vessel you provide) must be listed as a sample here so that mandatory activation calculations can be performed for all materials in the beam. If you need to add a sample or equipment after your proposal has been approved, contact the ACNS User Office.

[+ Create new sample](#)

Sample	Details	Copy
Test sample	Edit	

Description *	<input type="text"/>
Sample Form *	<input type="text" value="Solid"/>
Chemical Formula or Chemical Composition *	<input type="text"/>
CAS Number	<input type="text"/>
Hazards *	<input type="text"/>
Amount (mass g or volume ml) *	<input type="text"/>

Note: If there is no Australian Safety Data Sheet available at the time of submission, you must declare the following information. If you have a sample for which these questions do not apply, leave them blank:

- Contact Details/Ownership
- Date Completed
- Precautions for Handling
- Dangerous Goods Class Primary and Secondary
- Packing Group
- UN Number
- Appearance
- Odour
- Solubility (water/solvents)
- pKa
- Flash point
- Specific Gravity
- Bulk density
- Particle Size
- Viscosity
- Boiling Point
- Melting Point

Safety Data Sheet Questions

If you have a sample for which these questions do not apply, leave them blank

Contact Details/Ownership

Date Completed

This is the date that safety information was last reviewed. It should be no more than 5 years old.

Precautions for Handling *

Dangerous Goods Class (Primary)

Dangerous Goods Class (Secondary #1)

Dangerous Goods Class (Secondary #2)

Packing Group

UN Number

Appearance

Odour

Solubility (water/solvents)

pKa

Flash point

Specific Gravity

Bulk density

Particle Size

Viscosity

Boiling Point

Melting Point

5.4.2. Creating additional samples

If additional samples are required, add each sample separately. To add a new sample you must:

1. Click create new sample
2. Enter the following information for each sample:
 - Description*
 - Sample Form* (select from drop down list)
 - Chemical Formula or Chemical Composition*
 - CAS Number
 - Hazards* (click in box, select 1 or more from drop down list)
 - Amount (mass g or volume ml)*
 - Safety Comment
 - Crystalline sample*; if yes then add lattice parameters
 - Sample prepared* (select from drop down list)
 - Date ready
 - Disposal method (select from drop down list)
 - Australian Safety Data Sheet* – file upload available
3. Click **save**
4. Click **next**

5.5. Tab 5: Submit

When you have finished compiling your proposal you are required to select the submit tab. On the submit tab you will need to correct any highlighted errors in the application and accept the terms and conditions displayed.

5.5.1. Error correction

If there are missing compulsory fields (indicated throughout by a **red asterisk ***), error messages will be highlighted in red on your screen. Fix any omissions if you see any error messages, as you will not be able to submit the proposal until this is done.

This is where you submit your proposal for review.

Error: You cannot submit due to the following errors:

Instruments Tab

Go to question

Samples Tab

Sample: test sample

Upload the SDS *

This value should not be blank.

Go to question

5.5.2. Terms and conditions

Before submitting a proposal, you must review the terms and conditions for the use of neutrons at ANSTO. A proposer will be unable to submit a proposal until the terms and conditions have been accepted.

This is where you submit your proposal for review.

Terms and Conditions *

Click Yes to agree with the [terms and conditions for the use of neutrons at ANSTO](#).

Yes

No

Submit

5.5.3. Submission

Once the terms and conditions have been accepted, click submit. Once a proposal has been submitted no further edits can be made to the proposal.

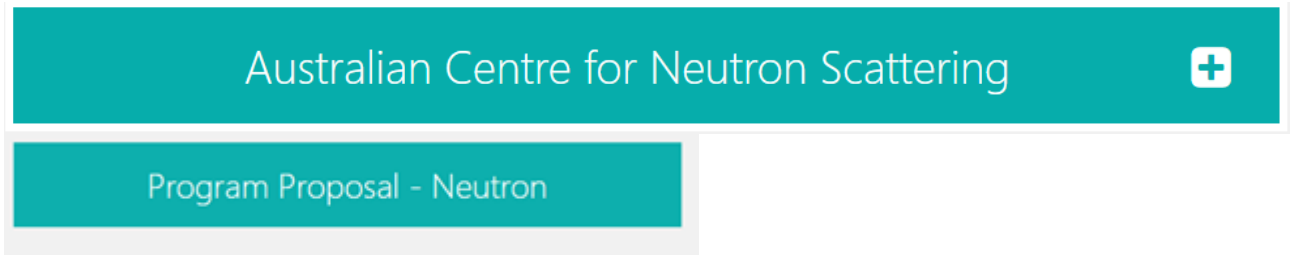
If an error or addition needs to be made after submission, please contact user.office.nsw@ansto.gov.au.

You have successfully submitted proposal N:PP15020

6. Program Proposal creation: Neutron

The Neutron Program Proposal is for access to one or more ACNS instruments for a program of research of up to 3 years.

1. Click the proposals tab
2. Click create new proposal
3. Click Australian Centre for Neutron Scattering
4. Select Program Proposal- Neutron



5. Input text into questions shown below:
 - **Proposal Title***: Please provide a short, descriptive title for your proposal. This field will not accept superscripts, subscripts, other alphabet letters etc.
 - **Proposal Type***: The proposal type defaults to the type of proposal you selected on the previous page.
 - **Proposal Round***: Only rounds that are currently open will be available and one must be selected.
 - **Principal Scientist**: select by typing surname or first name and selecting from names available.
6. Click create

Program Proposal - Neutron

Merit access proposal for access to one or more ACNS instruments and capabilities for a program of research of up to 3 years.

Proposal Title *
Provide a short descriptive title

Proposal Type *

ACNS: Neutron Program Proposal: Peer-reviewed experiments on our neutron beam lines.

Proposal Round *

ACNS & NDF: 2023-1: (Submissions due on September 15)

Principal Scientist

6.1. Tab 1: Main

A table with the proposal details is visible on the first tab. This table includes details such as:

- Proposal number/ ID
- Proposal round
- Proposal type
- Proposal status

This data has been populated from the previous step and cannot be modified.

Proposal Details	
ID	N:PP14958
Title	<input type="text" value="Test proposal"/>
Round	ACNS & NDF: 2023-1
Type	ACNS: Neutron Program Proposal
Status	In Preparation

6.1.1. Keywords

List up to four keywords or phrases which relate to this proposal, separated by commas. Keywords are index or subject words which help identify the proposals topic and objectives.

Keywords

List up to 4 keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

6.1.2. Collaborators

Enter the details of all researchers involved with this proposal including students. Please ensure you include all ANSTO staff who will contribute to this proposal and any people who will be associated with the outputs and outcomes of this project.

<p>Adding an existing collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator 2. Click on your collaborator's name 3. Click add user 4. Tick first time user if your collaborator is accessing ANSTO facilities for the first time 5. Select student type to indicate what level your collaborator is studying at
---	--

<p>Adding a new collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator – if their name does not appear you will need to follow the below steps: 2. Click create user 3. Complete the details in the pop-up window 4. Click create
<p>Selecting an organisation</p>	<ol style="list-style-type: none"> 1. Enter the beginning of the name of the organisation. The closest match will appear 2. Click on the organisation name to select
<p>Adding a new organisation</p> <p><i>This step is only required if your organisation is not listed in the drop-down menu when creating a new collaborator.</i></p>	<ol style="list-style-type: none"> 1. Click create 2. Click close

Collaborators

Please enter the details of the researchers (including students) involved with this proposal. Enter the given or family name of your collaborator. Click on your collaborator's name if it appears. Click Add User. If your collaborator is not registered, click *Create User*. Complete the details in the pop-up *Add a new user* form and click *Submit* and then *Close*. Select the appropriate Role and Student Type (if applicable) and enter the student's Supervisor Name.

Please ensure you include all ANSTO staff who will contribute to this proposal and any people who will be associated with the outputs &/or outcomes of this project.

Name:

Name	Role	First Time User ⓘ	Student Type ⓘ	Funding Approved	
	Principal Scientist ▾	<input type="checkbox"/> First Time User	Not Applicable ▾	<input type="checkbox"/> Funding Approved	<input type="button" value="✕"/>
	Co-proposer (editor) ▾	<input checked="" type="checkbox"/> First Time User	Honours ▾	<input type="checkbox"/> Funding Approved	<input type="button" value="✕"/>
	Co-proposer (editor) ▾	<input checked="" type="checkbox"/> First Time User	Masters ▾	<input type="checkbox"/> Funding Approved	<input type="button" value="✕"/>

Considerations



- There can be only one Principal Scientist for each proposal and only the Principal Scientist can submit a proposal.
- If you would like any of your co-proposers to be able to edit the proposal (have read and write access) please select '*Co-proposer – editor*' in the Role field.
- If a person has not used the ACNS neutron instruments before, check the *First Time User* field.
- If the person is a student, use the dropdown list to select the *Student Type* (Honours, Masters, PhD). If you select a Student Type, enter the student's Supervisor Name.
- It is expected that the Principal Scientist submitting the proposal has spoken with relevant ANSTO Staff about the proposal prior to submission.

6.1.3. Categorisation

Under categorisation there are a series of fields and questions that are to be completed if applicable to your proposal. These fields include:

1. Enter the details for the fields below where applicable:

- **Scientific area**

Indicate in which of the given scientific areas your proposal should be reviewed.

Scientific Area
Please indicate in which of the given scientific areas your proposal should be reviewed. You can provide more details in the keyword section.

- **Intellectual Property**

Select 'yes or no' if there is intellectual property associated with this proposal. If yes, add details in the text box provided.

I.P. Issues

Yes
 No

Intellectual Property Details
Maximum 1000 characters

- **Student thesis**

Select 'yes or no' if this work forms a critical part of a student thesis. If yes, add details in the text box provided.

Does this form a critical part of a student thesis?

Yes
 No

Thesis Details
If so, please provide the name of the student, organisation, thesis title and expected submission date.

- **Research Funding**

Check relevant option(s) for any funding bodies who have awarded funds to this project.

Research Funding
Name any funding bodies who have awarded funds to this project.

Internal Funding

ARC Funding

NH&MRC Funding

Industry Funding

- **Industrial Relevance and Industrial Involvement**
Select the industrial relevance category appropriate for this project.

Industrial Relevance

Industrial Involvement
Name of Company involved

2. Click **save** to save all entries
3. Click **next** to navigate to the next part of the proposal

6.2. Tab 2: Science

6.2.1. Proposed Program of Research (PDF)*

1. You must upload a PDF that describes your neutron experiment/s for the proposed program of research and you must include the following information:
 - Aim/s of the proposed research and scientific background/significance
 - Scientific importance of the proposed experiments
 - The vision that demonstrates that this research merits the status of an integrated program, rather than a series of normal (6-month round) proposals
 - Indicative description of the experiments to be carried out over the course of the program, including a generic list of samples and a provisional schedule of expected beamtime requirements
 - A plan for implementation of the program including timeline
 - Reason for choice of requested instrument/s
 - Description of the results of preliminary work and/or characterisation (e.g. using x-rays, NMR, etc.)
 - Brief description of your experience and track record with neutron scattering techniques
 - Please reference publications relevant to your proposed research (add DOI links if available)

PDF Upload Considerations



- The maximum file size is 3MB.
- The maximum word limit (including characters) is 5000 words.
- A maximum of 6 pages only.
- The PDF layout must be portrait only. Landscape layout is not accepted.
- 12-point font to be used only.

Proposed Program of Research (PDF)

Please upload a PDF (MAX 6 PAGES, PORTRAIT ONLY, NOT LANDSCAPE USING A 12-POINT FONT) of your proposed research. The maximum file size is 3MB with maximum 5000 words.

Describe your neutron experiment/s for the proposed program of research and you must include the following information:

- Aim/s of the proposed research and scientific background/significance
- Scientific importance of the proposed experiments
- The vision that demonstrates that this research merits the status of an integrated program, rather than a series of normal (6-month round) proposals
- Indicative description of the experiments to be carried out over the course of the program, including a generic list of samples and a provisional schedule of expected beamtime requirements
- A plan for implementation of the program including timeline
- Reason for choice of requested instrument/s
- Description of the results of preliminary work and/or characterisation (e.g. using x-rays, NMR, etc.)
- Brief description of your experience and track record with neutron scattering techniques
- Please reference publications relevant to your proposed research (add DOI links if available)

No file loaded

Upload

2. Click upload
3. Click choose file
4. Click upload

File upload

Use the form below to upload a file. Unlike other fields, changes to files do not need to be saved.

File to upload *

No file chosen

Max file size: 3mb
Allowed formats: PDF, PNG, and JPG

5. Click **save**
6. Click **next**.

6.3. Tab 3: Instruments

On the instruments tab, you must select the instruments required as part of your project. Additional resources may be requested on this page for laboratories and sample environment equipment.

Information entered and selections made here should reflect the first six months of your proposed program of work.

6.3.1. Neutron Instrument selection

1. Select neutron instrument
2. Select a specific instrument from the adjacent drop-down menu
3. Click add instrument
4. Enter the following information for the requested instrument:
 - Add the number of requested days
 - Describe the experimental setup*
 - Request a scientist
 - Add sample environment equipment
 - Add laboratory ancillaries
5. Repeat the steps above for any additional instruments
6. Click save

The screenshot shows a form titled "Neutron Instrument" for the instrument "BILBY". At the top right, there is a text input field containing "6" and a dropdown menu labeled "Days". A red "X" button is located to the right of the "Days" dropdown. Below this is a section titled "Experimental Setup *" with a subtext: "Please provide the instrumental settings you require on the instrument in order to carry out your experiment, such as resolution, wavelength, Q-range, and so on." This section contains a large, empty text area. At the bottom of the form, there are three dropdown menus: "Scientists" (with a "Choose" button), "Sample Env" (with a "Choose" button), and "Lab Ancillaries" (with a "Choose" button). To the right of these dropdowns is a "Requested" label and an empty text input field.

6.3.2. Non- Neutron Instrument selection

1. Select ACNS non- neutron instrument
2. Select a specific instrument from the adjacent drop-down menu
3. Click add instrument
4. Enter the following information for the requested instrument:
 - Add the number of requested days
 - Describe the experimental setup*
 - Request a scientist
5. Repeat the steps above for any additional non-neutron instruments
6. Click save

Analysis Type	Instrument	Requested
ACNS: Non-Neutron Instrument	Imaging Ellipsometer	9 Days ✕
Experimental Setup * Please provide the instrumental settings you require on the instrument in order to carry out your experiment, such as resolution, wavelength, Q-range, and so on.		
<input type="text" value="no"/>		
Scientists <input type="text" value="Choose"/>	Requested <input type="text"/>	

6.4. Tab 4: Submit

When you have finished compiling your proposal you are required to select the submit tab. On the submit tab you will need to correct any highlighted errors in the application and accept the terms and conditions displayed.

6.4.1. Error correction

If there are missing compulsory fields (indicated throughout by a **red asterisk ***), error messages will be highlighted in red on your screen. Fix any omissions if you see any error messages, as you will not be able to submit the proposal until this is done.

N:PP15020: est

This is where you submit your proposal for review.

Error: You cannot submit due to the following errors:

Instruments Tab

6.4.2. Terms and conditions

Before submitting a proposal, you must review the terms and conditions for the use of neutrons at ANSTO. A proposer will be unable to submit a proposal until the terms and conditions have been accepted.

Terms and Conditions *

Click Yes to agree with the [terms and conditions for the use of neutrons at ANSTO](#).

Yes
 No

6.4.3. Submission

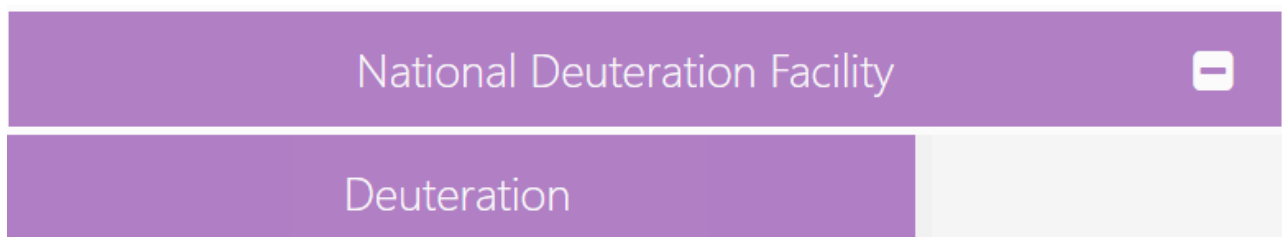
Once the terms and conditions have been accepted, click submit. Once a proposal has been submitted no further edits can be made to the proposal. If an error or addition needs to be made after submission, please contact user.office.nsw@ansto.gov.au.

You have successfully submitted proposal N:PP15020

7. Proposal creation: Deuteration proposal

A normal deuteration proposal is for all merit access proposals submitted within a 6-month period for use at overseas neutron facilities or for non-neutron applications (e.g. NMR, MS). For provision of deuterated molecules for use with ACNS neutron instruments, a Deuteration/Neutron proposal must be submitted. When you click the National Deuteration Facility (NDF) menu, you will find a list of proposal types available. One proposal type must be selected to request access to NDF techniques.

1. Click the proposals tab
2. Click create new proposal
3. Click National Deuteration Facility
4. Select the Deuteration proposal type



5. Input text into questions shown below:

Proposal Title*: Please provide a short, descriptive title for your proposal. This field will not accept superscripts, subscripts, other alphabet letters etc.

Proposal Type*: The proposal type defaults to the type of proposal you selected on the previous page.

Proposal Round*: Only rounds that are currently open will be available and one must be selected.

Principal Scientist: select by typing surname or first name and selecting from names available. If the required name is not available, please select the 'Create User' option. If you choose this option a pop-up 'Add a new user' box will appear.

6. Click create

Deuteration

Merit access proposal for NDF capabilities within a 6-month round. This proposal type is for overseas neutron experiments or for non-neutron applications (e.g. NMR, MS). More information on NDF user access can be found [here](#).

Proposal Title *
Provide a short descriptive title

Proposal Type *

National Deuteration Facility: Deuteration

Proposal Round *

ACNS & NDF: 2023-1: (Submissions due on September 15)

Principal Scientist

Once you click create, this saves your work and takes you to the main proposal creation page.

7.1. Tab 1: Main

A table with the proposal detail is visible on the first tab. This table includes details such as:

- Proposal number/ ID
- Proposal round
- Proposal type
- Proposal status

This data has been populated from the previous step and cannot be modified.

NDF14956: test deuteration proposal

Save Next Cancel

Proposal Details	
ID	NDF14956
Title	test deuteration proposal
Round	ACNS & NDF: 2023-1
Type	National Deuteration Facility: Deuteration
Status	In Preparation

7.1.1. Keywords

List up to four keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

Keywords

List up to 4 keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

7.1.2. Collaborators

Enter the details of all researchers involved with this proposal including students. Please ensure you include all ANSTO staff who will contribute to this proposal and any people who will be associated with the outputs and outcomes of this project.

<p>Adding an existing collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator 2. Click on your collaborator's name 3. Click add user 4. Tick first time user if your collaborator is accessing NDF facilities for the first time 5. Select student type to indicate what level your collaborator is studying at.
---	---

<p>Adding a new collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator – if their name does not appear you will need to follow the below steps: 2. Click create user 3. Complete the details in the pop-up window 4. Click create
<p>Selecting an organisation</p>	<ol style="list-style-type: none"> 1. Enter the beginning of the name of the organisation. The closest match will appear 2. Click on the organisation name to select
<p>Adding a new organisation</p> <p><i>This step is only required if your organisation is not listed in the drop-down menu when creating a new collaborator.</i></p>	<ol style="list-style-type: none"> 1. Click create 2. Click close

Considerations



- There can be only one Principal Scientist for each proposal and only the Principal Scientist can submit a proposal.
- If you would like any of your co-proposers to be able to edit the proposal (have read and write access) please select '*Co-proposer – editor*' in the Role field.
- If a person has not used NDF facilities before, check the *First Time User* field.
- If the person is a student, use the dropdown list to select the *Student Type* (Honours, Masters, PhD). If you select a Student Type, please enter the student's Supervisor Name.
- It is expected that the Principal Scientist submitting the proposal has spoken with relevant ANSTO Staff about the proposal prior to submission.

7.1.3. Categorisation

Under categorisation there are a series of fields and questions that are to be completed if applicable to your proposal. These fields include:

1. Enter the details for the fields below where applicable:
 - **Scientific area**
Indicate in which of the given scientific areas your proposal should be reviewed.

Scientific Area

Please indicate in which of the given scientific areas your proposal should be reviewed. You can provide more details in the keyword section.

- **Intellectual Property**

Select 'yes or no' if there is intellectual property associated with this proposal. If yes, add details in the text box provided.

I.P. Issues

Yes
 No

Intellectual Property Details
Maximum 1000 characters

- **Student thesis**

Select 'yes or no' if this work forms a critical part of a student thesis. If yes, add details in the text box provided.

Does this form a critical part of a student thesis?

Yes
 No

Thesis Details
If so, please provide the name of the student, organisation, thesis title and expected submission date.

- **Participation***

You must indicate if you or any of your team wish to participate in the production, purification and/or characterisation of isotopically labelled molecules at the NDF. If yes, please indicate who and their career details.

Participation *

Do you or any of your team wish to participate in the production, purification and/or characterisation of isotopically labelled molecules at the NDF?

Yes
 No

If yes, please indicate who, their career stage (e.g. PhD student) and what type of involvement is being requested. It is recommended to discuss this with the NDF pre-submission.

- **Research Funding**

Check relevant option(s) for any funding bodies who have awarded funds to this project.

Research Funding
Name any funding bodies who have awarded funds to this project.

Internal Funding

ARC Funding

NH&MRC Funding

Industry Funding

- **Financial Information***

You must indicate if you have budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, provide details, including details of any discussions you have had with NDF staff.

Financial Information *
Have you budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, please provide details, including details of any discussions you have had with NDF staff.

- **Experience**

Indicate if you or any of your listed collaborators, are an early career researcher or a novice user of neutrons.

Are you an early career researcher (ECR, less than 5 years post doctoral experience)? Are you a novice user of neutrons (less than 3 years experience)?
Please indicate answers to these questions here and add any further information you deem relevant.

- **Industrial Relevance and Industrial Involvement**

Select the industrial relevance category appropriate for this project.

Industrial Relevance

Industrial Involvement
Name of Company involved

2. Click **save**
3. Click **next**

7.2. Tab 2: Science

7.2.1. Proposed Research (PDF) *

Do you know if synthesis of your molecule/s requires Biodeuteration (for deuteration or multiple isotopic labelling) or Chemical deuteration techniques? If you are not sure, please contact the NDF via ndf-enquiries@ansto.gov.au to discuss your proposal.

1. Upload a two-page PDF (maximum) describing your proposed research which includes the information listed below. Please note, other specific details will be requested further within the proposal (e.g. protein sequence information). This must include:
 - Scientific background and significance
 - Aim and scientific importance of the proposed experiment/s using the requested molecule/s (neutron, NMR or other)
 - Describe how the requested molecule/s will be utilised in the proposed experiments and how deuteration or multiple isotope labelling will assist the investigation/s
 - Describe what preliminary or previous work and/or characterisation you have done on the target molecule/s
 - Add detail on which instrument/s, where and when you intend to use the requested molecule/s. If you have neutron beamtime granted, please indicate where and when. If not, where and when will a proposal be submitted?
 - Please reference publications relevant to your proposed research (add DOI links if available)
 - Relevant figures

Proposed Research (PDF) *

Please upload a 2 page PDF (PORTRAIT ONLY, NOT LANDSCAPE USING A 12-POINT FONT) of your proposed research which must include the information listed below. The maximum file size is 3MB.

NOTE: other specific details will be requested further within the proposal (e.g. protein sequence information).

- Scientific background and significance,
- Aim and scientific importance of the proposed experiment/s using the requested molecule/s (neutron, NMR or other),
- Describe how the requested molecule/s will be utilised in the proposed experiments and how deuteration or multiple isotope labelling will assist the investigation/s,
- Describe what preliminary or previous work and/or characterisation you have done on the target molecule/s,
- Add detail on which instrument/s, where and when you intend to use the requested molecule/s. If you have neutron beamtime granted, please indicate where and when. If not, where and when will a proposal be submitted?
- Please reference publications relevant to your proposed research (add DOI links if available)

No file loaded

Upload

PDF Upload Considerations



- The maximum file size is 3MB.
- The maximum word limit (including characters) is 5000 words.
- A maximum of 2 pages only.
- The PDF layout must be portrait only. Landscape layout is not accepted.
- 12-point font only.
 - Click upload
 - Click choose file

- Click upload

File upload

Use the form below to upload a file. Unlike other fields, changes to files do not need to be saved.

File to upload *

Choose File

 No file chosen

Max file size: 3mb
Allowed formats: PDF, PNG, and JPG

Cancel
Upload

- Click **save**
- Click **next**.

7.2.2. Molecule/s to be deuterated or multiple labelled

Molecule/s to be deuterated or multiple labelled (Note: maximum of 2 per proposal unless otherwise agreed to by NDF management)	
Molecule name	Full and any abbreviation
Molecule structure	As applicable
Deuteration level	Add as percentage required. Include justification for the desired level
Isotopic labelling details	Describe if uniform, selective or segmental labelling required. If selective or segmental labelling, please describe in detail and/or attach a drawing to the Figures section showing sites required and optional sites
Form of molecule requested	For example biomass/cell paste, partially purified, fully purified
Quantity required	Specify minimum workable quantity and ideal quantity for your experimental application/s. Please indicate if the quantity requested will be utilised in multiple experiments.

7.2.3. Additional Questions: Biodeuteration

Do you require Biodeuteration - protein or other biosynthetically produced molecules?

If you select 'yes' to this question you will be required to provide additional information in the field provided in regards to the following:

<p>Method for production For 1H (protonated) form of molecule (if known), use the following as headings to provide information and describe as applicable for each molecule (add references as needed):</p>	<ul style="list-style-type: none"> • Host microorganism (e.g. <i>E.coli</i> BL21, <i>S. cerevisiae</i>). Indicate if you can provide the microbe if you have a bio-engineered or specific microbe for production of your requested molecule. • Scale of production • Culture inoculation preparation • Growth conditions (medium – rich or minimal, temperature, timeframes etc) • Expression conditions (induction OD/temperature for proteins, expression time etc) • Solubility and stability characteristics • Storage conditions • Add any relevant data to indicate method outcomes (e.g. yield) • Add expression SDS-PAGE images in the Proposed Research PDF for protein/s • If purification method is known, please describe in the Purification section or add relevant reference/s.
<p>Recombinant protein expression Use the following as headings to provide information and describe for each protein and corresponding plasmid (add references as needed):</p>	<ul style="list-style-type: none"> • Protein and Expression Plasmid Do you have a plasmid readily for provision to the NDF? If you don't currently have a plasmid, please contact NDF to discuss further. Note: NDF preferred plasmids for reliable protein deuteration encode for kanamycin resistance and the <i>lacI</i> repressor (e.g. pET28a or similar). <ul style="list-style-type: none"> ○ Protein UniProt/SwissProt ID ○ Species of origin (e.g. human, mouse, bacterial) ○ Plasmid (name and describe, indicate commercial/non-commercial and history) ○ Antibiotic selection ○ Induction (e.g. IPTG) ○ Expression tags (describe any N- or C- terminal) ○ Molecular weight, kDa (of expressed protein with and without tags as applicable) ○ Mutations or modifications (if applicable) ○ Protein toxicity to host organism (if applicable)

7.2.4. Additional Questions: Chemical Deuteration

Do you require Chemical Deuteration via exchange and synthesis? If you select 'yes' to this question you will be required to provide additional information in the field provided in regards to the following:

Method for production

- Have you produced the molecule in ^1H (protonated) form? If yes, please add the following:
 - Reaction scheme – add drawing as Figure or reference/s
 - Method (as much detail as possible) or reference/s
 - If purification method known, please describe in the Purification section or add relevant reference/s.

7.2.5. Purification Method

This field has been provided for the proposer to describe proven purification method (in ^1H or ^2H , or multiple labelled form) for each molecule requested. You must include materials and equipment required and quantification method along with references if known.

Purification Method (if known)

Describe proven purification method (in ^1H or ^2H , or multiple labelled form) for each molecule requested.

Include materials and equipment required and quantification method along with references (indicate designer of method if reference/s not available).

7.2.6. Safety hazards for deuterated molecule synthesis*

If the requested molecule/s represent any actual or potential hazard to human health, other organisms or the environment, this must be explained further in the field provided. You must describe each molecule, indicating handling and hazard minimisation conditions required; and also information on what approval/s and/or conditions have been required to fulfil for each molecule at your institution/s?

Safety Hazards for Deuterated Molecule Synthesis *

Does the requested molecule/s represent any actual or potential hazard to human health, other organisms or the environment?
Please describe for each molecule, indicating handling and hazard minimisation conditions required.
What approval/s and/or conditions have you been required to fulfil for each molecule at your institution/s?

7.2.7. Regulatory requirements for deuterated molecule synthesis*

If there are any regulatory requirements associated with the requested molecule/s, provide any information as necessary, including any approvals or conditions you are required to fulfil at your institution (e.g. Office of the Gene Technology Regulator - OGTR).

Regulatory Requirements for Deuterated Molecule Synthesis *

Are there any regulatory requirements associated with your requested molecule/s?
Please provide any information as necessary, including any approvals or conditions you are required to fulfil at your institution (e.g. Office of the Gene Technology Regulator - OGTR).

Click **save**

Click **next**

7.3. Tab 3: Techniques

Select the NDF technique(s) required for your proposal (NDF - Biodeuteration or NDF - Chemical Deuteration). If your research requires both NDF capability techniques, please submit separate proposals. You must select the NDF Scientist(s) with whom you have discussed this proposal (if any).

7.3.1. Technique Selection

For each NDF technique selected, you must select the technique required for your proposal including Biodeuteration or Chemical Deuteration. You will need to enter the requested number of molecules and choose a local contact for the proposal.

1. Select Deuteration
2. Select a technique from the adjacent drop-down menu
3. Click add technique
4. Enter the following information for the requested instrument:
 - Add number of requested molecules
 - Scientists (this should indicate any NDF team members you have discussed the proposal with)
5. Click save

Capability Type	Technique	Requested
Deuteration	NDF - Biodeuteration	9 Molecul

Scientists: Choose

Requested:

7.3.2. Requested Supply Date/s

Please indicate date/s required for provision of requested molecule/s and where they are to be delivered.

Requested Supply Date/s *

Please indicate date/s required for provision of requested molecule/s and where they are to be delivered.

Click **save**

Click **next**

7.4. Tab 4: Submit

When you have finished compiling your proposal you are required to select the 'submit' tab. The research portal will check there are no errors and the terms and conditions have been accepted prior to submission.

7.4.1. Error correction

If there are missing compulsory fields (indicated throughout by a **red asterisk ***), error messages will be highlighted in red on your screen. Fix any omissions if you see any error messages, as you will not be able to submit the proposal until this is done.


Please review and accept the sections below to submit your proposal for review. If you have any queries regarding these items, please contact the NDF via ndf-enquiries@ansto.gov.au.

Error: You cannot submit due to the following errors:

Main Tab

Financial Information *

Have you budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, please provide details, including details of any discussions you have had with NDF staff.

 This value should not be blank.

[Go to question](#)

7.4.2. Potential Cost Recovery Fees

Requests for multiple-labelled proteins (e.g. with ^2H plus ^{13}C and/or ^{15}N) will involve some recovery of the cost of isotopically labelled materials used in production. Proposals for experimental applications in countries other than Australia will be subject to partial cost recovery/collaboration.

Some delivery charges incurred by NDF will be subject to cost recovery (e.g. dry ice shipments). Large mass or number of molecules will be subject to negotiation and will potentially be subject to partial cost recovery.

I accept the Potential Cost Recovery Fees

Requests for multiple-labelled proteins (e.g. with ^2H plus ^{13}C and/or ^{15}N) will involve some recovery of the cost of isotopically labelled materials used in production.

Proposals for experimental applications in countries other than Australia will be subject to partial cost recovery/collaboration.

Some delivery charges incurred by NDF will be subject to cost recovery (e.g. dry ice shipments).

Large mass or number of molecules will be subject to negotiation and will potentially be subject to partial cost recovery.

Yes

No

7.4.3. Authorship agreement

Co-authorship of publications arising from use of NDF-produced molecules through the merit and user pays/collaboration access models is expected due to the substantial time (weeks to months) and degree of difficulty in isotopically labelling molecules that are not usually available from other sources.

The following acknowledgment is to be added to any resulting publications: "The National Deuteration Facility is partly funded by the National Collaborative Research Infrastructure Strategy (NCRIS) – an Australian Government initiative."

I accept the Authorship agreement

Co-authorship of publications arising from use of NDF-produced molecules through the merit and user pays/collaboration access models is expected due to the substantial time (weeks to months) and degree of difficulty in isotopically labelling molecules that are not usually available from other sources.

The following acknowledgment is to be added to any resulting publications: "The National Deuteration Facility is partly funded by the National Collaborative Research Infrastructure Strategy (NCRIS) – an Australian Government initiative."

Yes

No

7.4.4. Submission

Once the terms and conditions have been accepted, click submit.

Further information on NDF user access can be found [here](#). If you have any queries about these items please contact the NDF Leader and NDF User Program Manager via ndf-enquiries@ansto.gov.au

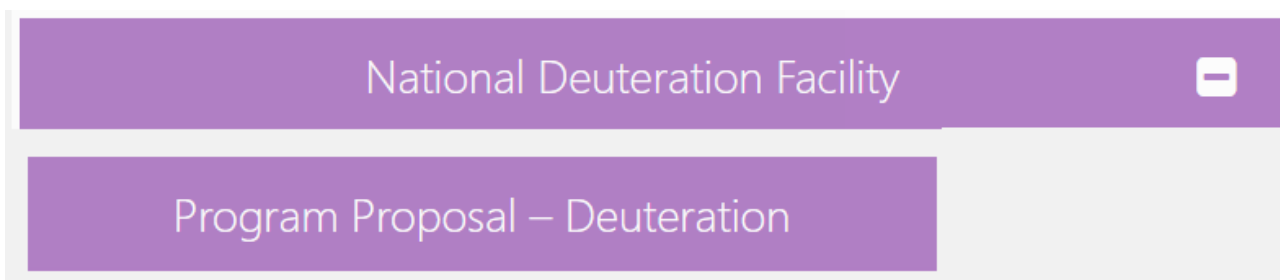
No further edits can be made to the proposal once it is submitted. If an error or addition needs to be made after submission, please contact user.office.nsw@ansto.gov.au and provide the Proposal ID along with your request for help.

You have successfully submitted proposal N:PP15020

8. Proposal creation: Program Proposal Deuteration

A deuteration program proposal is for a merit access proposal for a program of research of up to 3 years for access to NDF capabilities of biological and/or chemical deuteration or multiple isotopic labelling. This program proposal type is for overseas neutron experiments or non-neutron applications (e.g. NMR, MS). When you click the National Deuteration Facility (NDF) menu, you will find a list of proposal types available. One proposal type must be selected to request access to NDF techniques.

1. Click the proposals tab
2. Click create new proposal
3. Click National Deuteration Facility
4. Select the Program Proposal Deuteration proposal type



5. Input text into questions shown below:

Proposal Title*: Please provide a short, descriptive title for your proposal. This field will not accept superscripts, subscripts, other alphabet letters etc.

Proposal Type*: The proposal type defaults to the type of proposal you selected on the previous page.

Proposal Round*: Only rounds that are currently open will be available and one must be selected. This defaults to NDF: Deuteration Program Proposal.

Principal Scientist: select by typing surname or first name and selecting from names available. If the required name is not available, please select the 'Create User' option. If you choose this option a pop-up 'Add a new user' box will appear.

6. Click create

Program Proposal – Deuteration

Merit access proposal for a program of research of up to 3 years for access to NDF capabilities of biological and/or chemical deuteration or multiple isotopic labelling. This program proposal type is for overseas neutron experiments or non-neutron applications (e.g. NMR, MS).

Proposal Title *
Provide a short descriptive title

Proposal Type *

NDF: Deuteration Program Proposal

Proposal Round *

ACNS & NDF: 2023-1: (Submissions due on September 15)

Principal Scientist

Once you click create, this saves your work and takes you to the main proposal creation page.

8.1. Tab 1: Main

A table with the proposal detail is visible on the first tab. This table includes details such as:

- Proposal number/ ID
- Proposal round
- Proposal type
- Proposal status

This data has been populated from the previous step and cannot be modified.

Proposal Details	
ID	NDF:P15024
Title	<input type="text" value="test"/>
Round	ACNS & NDF: 2023-1
Type	NDF: Deuteration Program Proposal
Status	In Preparation

8.1.1. Keywords

List up to four keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

Keywords

List up to 4 keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

8.1.2. Collaborators

Enter the details of all researchers involved with this proposal including students. Please ensure you include all ANSTO staff who will contribute to this proposal and any people who will be associated with the outputs and outcomes of this project.

Adding an existing collaborator	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator 2. Click on your collaborator's name 3. Click add user 4. Tick first time user if your collaborator is accessing NDF facilities for the first time 5. Select student type to indicate what level your collaborator is studying at.
Adding a new collaborator	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator – if their name does not appear you will need to follow the below steps:

	<ol style="list-style-type: none"> 2. Click create user 3. Complete the details in the pop-up window 4. Click create
Selecting an organisation	<ol style="list-style-type: none"> 1. Enter the beginning of the name of the organisation. The closest match will appear 2. Click on the organisation name to select
Adding an existing collaborator	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator 2. Click on your collaborator's name 3. Click add user 4. Tick first time user if your collaborator is accessing ANSTO facilities for the first time 5. Select student type to indicate what level your collaborator is studying at.

Considerations



- There can be only one Principal Scientist for each proposal and only the Principal Scientist can submit a proposal.
- If you would like any of your co-proposers to be able to edit the proposal (have read and write access) please select '*Co-proposer – editor*' in the Role field.
- If a person has not used NDF facilities before, check the *First Time User* field.
- If the person is a student, use the dropdown list to select the *Student Type* (Honours, Masters, PhD). If you select a Student Type, please enter the student's Supervisor Name.
- It is expected that the Principal Scientist submitting the proposal has spoken with relevant ANSTO Staff about the proposal prior to submission.

8.1.3. Categorisation

Under categorisation there are a series of fields and questions that are to be completed if applicable to your proposal. These fields include:

1. Enter the details for the fields below where applicable:
 - **Scientific area**
Indicate in which of the given scientific areas your proposal should be reviewed.

Scientific Area

Please indicate in which of the given scientific areas your proposal should be reviewed. You can provide more details in the keyword section.

- **Intellectual Property**

Select 'yes or no' if there is intellectual property associated with this proposal. If yes, add details in the text box provided.

I.P. Issues

Yes
 No

Intellectual Property Details
Maximum 1000 characters

- **Student thesis**

Select 'yes or no' if this work forms a critical part of a student thesis. If yes, add details in the text box provided.

Does this form a critical part of a student thesis?

Yes
 No

Thesis Details
If so, please provide the name of the student, organisation, thesis title and expected submission date.

- **Participation***

You must indicate if you or any of your team wish to participate in the production, purification and/or characterisation of isotopically labelled molecules at the NDF. If yes, please indicate who and their career details.

Participation *

Do you or any of your team wish to participate in the production, purification and/or characterisation of isotopically labelled molecules at the NDF?

Yes
 No

If yes, please indicate who, their career stage (e.g. PhD student) and what type of involvement is being requested. It is recommended to discuss this with the NDF pre-submission.

- **Research Funding**

Check relevant option(s) for any funding bodies who have awarded funds to this project.

Research Funding

Name any funding bodies who have awarded funds to this project.

Internal Funding

ARC Funding

NH&MRC Funding

Industry Funding

- **Financial Information***

You must indicate if you have budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, provide details, including details of any discussions you have had with NDF staff.

Financial Information *

Have you budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, please provide details, including details of any discussions you have had with NDF staff.

- **Experience**

Indicate if you or any of your listed collaborators, are an early career researcher or a novice user of neutrons.

Are you an early career researcher (ECR, less than 5 years post doctoral experience)? Are you a novice user of neutrons (less than 3 years experience)?

Please indicate answers to these questions here and add any further information you deem relevant.

- **Industrial Relevance and Industrial Involvement**

Select the industrial relevance category appropriate for this project.

Industrial Relevance

Industrial Involvement

Name of Company involved

2. Click **save**

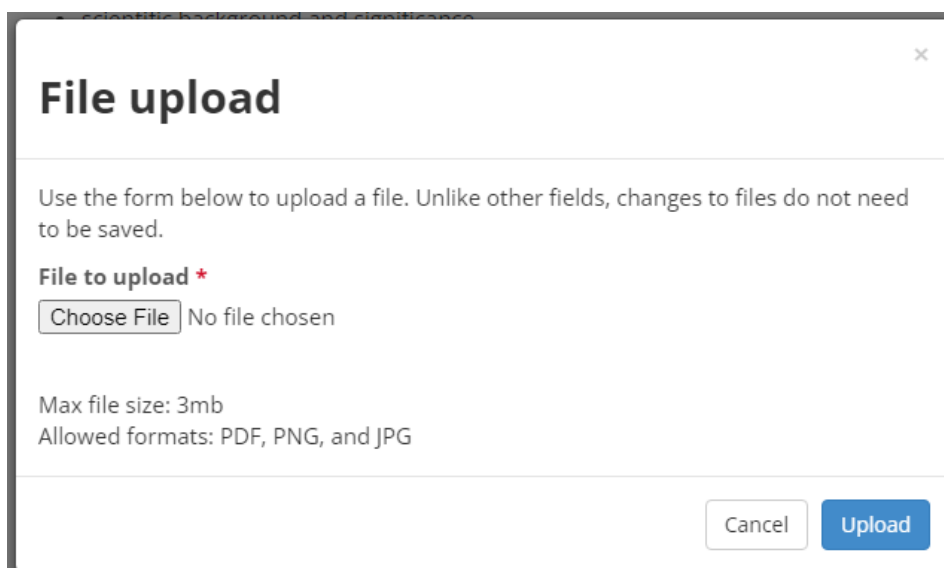
3. Click **next**

8.2. Tab 2: Science

8.2.1. Proposed Program of Research (PDF) *

Do you know if synthesis of your molecule/s requires Biodeuteration (for deuteration or multiple isotopic labelling) or Chemical deuteration techniques? If you are not sure, please contact the NDF via ndf-enquiries@ansto.gov.au to discuss your proposal.

1. Upload a PDF describing your proposed program of research and justification of requests for deuterated and/or multiple isotopically labelled molecule/s. You must include the following information:
 - Aim/s of the proposed research and scientific background/significance
 - Scientific importance of the proposed experiments utilising the deuterated and/or multiple isotopically labelled molecule/s
 - The vision that demonstrates that this research merits the status of an integrated program, rather than a series of normal (6-month round) proposals
 - Indicative description of the experiments to be carried out over the course of the program including a description of how the deuterated and/or multiple isotopically labelled molecule/s will be utilised and how they will assist the investigation
 - A provisional schedule of expected isotopically labelled molecule/s requirements
 - A plan for implementation of the program including timeline
 - Reason for choice of requested isotopically labelled molecule/s
 - Description of results of preliminary work and/or characterisation
 - Brief description of your experience and track record with use of deuterated and/or multiple isotopically labelled molecules and your proposed experimental application/s (e.g. neutron scattering, NMR etc)
 - Please reference publications relevant to your proposed research (add DOI links if available)
2. Click upload
3. Click choose file
4. Click upload



File upload

Use the form below to upload a file. Unlike other fields, changes to files do not need to be saved.

File to upload *

No file chosen

Max file size: 3mb
Allowed formats: PDF, PNG, and JPG

4. Click save
5. Click next.

Considerations



- The maximum file size is 3MB.
- The maximum word limit (including characters) is 5000 words.
- A maximum of 6 pages only.
- The PDF layout must be portrait only using a 12-point font. Landscape layout is not accepted.

Proposed Program of Research (PDF) *

Please upload a PDF (MAX 6 PAGES, PORTRAIT ONLY, NOT LANDSCAPE USING A 12-POINT FONT) of your proposed research. The maximum file size is 3MB with maximum 5000 words.

NOTE: specific Deuteration details will be requested in other fields within this Science section.

Describe your proposed program of research and justification of requests for deuterated and/or multiple isotopically labelled molecule/s. You must include the following information:

- Aim/s of the proposed research and scientific background/significance
- Scientific importance of the proposed experiments utilising the deuterated and/or multiple isotopically labelled molecule/s
- The vision that demonstrates that this research merits the status of an integrated program, rather than a series of normal (6-month round) proposals
- Indicative description of the experiments to be carried out over the course of the program including a description of how the deuterated and/or multiple isotopically labelled molecule/s will be utilised and how they will assist the investigation
- A provisional schedule of expected isotopically labelled molecule/s requirements
- A plan for implementation of the program including timeline
- Reason for choice of requested isotopically labelled molecule/s
- Description of results of preliminary work and/or characterisation
- Brief description of your experience and track record with use of deuterated and/or multiple isotopically labelled molecules and your proposed experimental application/s (e.g. neutron scattering, NMR etc)
- Please reference publications relevant to your proposed research (add DOI links if available)

[Test document.pdf](#)

8.2.2. Molecule/s to be deuterated or multiple labelled

Molecule/s to be deuterated or multiple labelled (Note: maximum of 2 per proposal unless otherwise agreed to by NDF management)	
Molecule name	Full and any abbreviation
Molecule structure	As applicable
Deuteration level	Add as percentage required. Include justification for the desired level
Isotopic labelling details	Describe if uniform, selective or segmental labelling required. If selective or segmental labelling, please describe in detail and/or attach a drawing to the Figures section showing sites required and optional sites
Form of molecule requested	For example biomass/cell paste, partially purified, fully purified
Quantity required	Specify minimum workable quantity and ideal quantity for your experimental application/s. Please indicate if the quantity requested will be utilised in multiple experiments.

8.2.3. Additional Questions: Biodeuteration

Do you require Biodeuteration - protein or other biosynthetically produced molecules?

If you select 'yes' to this question you will be required to provide additional information in the field provided in regards to the following:

<p>Method for production For ^1H (protonated) form of molecule (if known), use the following as headings to provide information and describe as applicable for each molecule (add references as needed):</p>	<ul style="list-style-type: none"> • Host microorganism (e.g. <i>E.coli</i> BL21, <i>S. cerevisiae</i>). Indicate if you can provide the microbe if you have a bio-engineered or specific microbe for production of your requested molecule. • Scale of production • Culture inoculation preparation • Growth conditions (medium – rich or minimal, temperature, timeframes etc) • Expression conditions (induction OD/temperature for proteins, expression time etc) • Solubility and stability characteristics • Storage conditions • Add any relevant data to indicate method outcomes (e.g. yield) • Add expression SDS-PAGE images in the Proposed Research PDF for protein/s • If purification method is known, please describe in the Purification section or add relevant reference/s.
<p>Recombinant protein expression Use the following as headings to provide information and describe for each protein and corresponding plasmid (add references as needed):</p>	<ul style="list-style-type: none"> • Protein and Expression Plasmid Do you have a plasmid readily for provision to the NDF? If you don't currently have a plasmid, please contact NDF to discuss further. Note: NDF preferred plasmids for reliable protein deuteration encode for kanamycin resistance and the <i>lacI</i> repressor (e.g. pET28a or similar). <ul style="list-style-type: none"> ○ Protein UniProt/SwissProt ID ○ Species of origin (e.g. human, mouse, bacterial) ○ Plasmid (name and describe, indicate commercial/non-commercial and history) ○ Antibiotic selection ○ Induction (e.g. IPTG) ○ Expression tags (describe any N- or C- terminal) ○ Molecular weight, kDa (of expressed protein with and without tags as applicable) ○ Mutations or modifications (if applicable) ○ Protein toxicity to host organism (if applicable)

8.2.4. Additional Questions: Chemical Deuteration

Do you require Chemical Deuteration via exchange and synthesis? If you select 'yes' to this question you will be required to provide additional information in the field provided in regards to the following:

<p>Method for production</p>	<ul style="list-style-type: none"> • Have you produced the molecule in ^1H (protonated) form? If yes, please add the following: <ul style="list-style-type: none"> ○ Reaction scheme – add drawing as Figure or reference/s
-------------------------------------	--

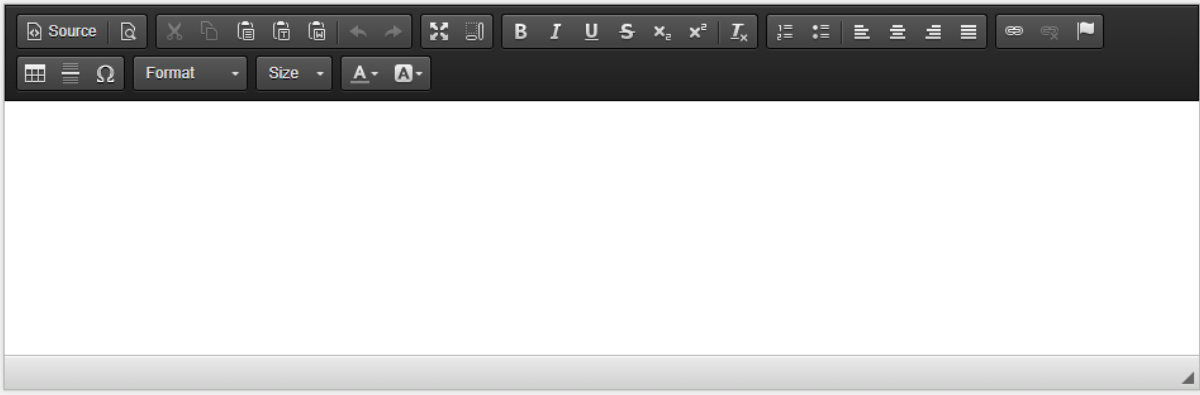
	<ul style="list-style-type: none"> ○ Method (as much detail as possible) or reference/s ○ If purification method known, please describe in the Purification section or add relevant reference/s.
--	--

8.2.5. Purification Method

This field has been provided for the proposer to describe proven purification method (in ^1H or ^2H , or multiple labelled form) for each molecule requested. You must include materials and equipment required and quantification method along with references if known.

Purification Method (if known)

Describe proven purification method (in ^1H or ^2H , or multiple labelled form) for each molecule requested. Include materials and equipment required and quantification method along with references (indicate designer of method if reference/s not available).

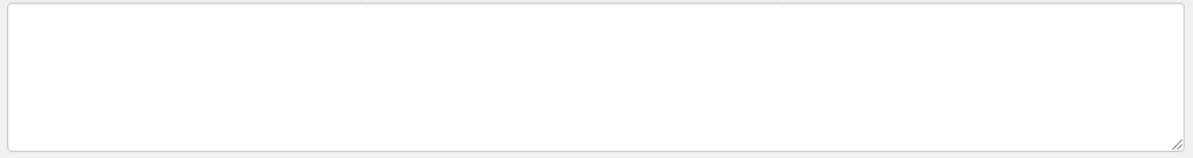


8.2.6. Safety hazards for deuterated molecule synthesis*

If the requested molecule/s represent any actual or potential hazard to human health, other organisms or the environment, this must be explained further in the field provided. You must describe each molecule, indicating handling and hazard minimisation conditions required; and also information on what approval/s and/or conditions have been required to fulfil for each molecule at your institution/s?

Safety Hazards for Deuterated Molecule Synthesis *

Does the requested molecule/s represent any actual or potential hazard to human health, other organisms or the environment? Please describe for each molecule, indicating handling and hazard minimisation conditions required. What approval/s and/or conditions have you been required to fulfil for each molecule at your institution/s?



8.2.7. Regulatory requirements for deuterated molecule synthesis*

If there are any regulatory requirements associated with the requested molecule/s, provide any information as necessary, including any approvals or conditions you are required to fulfil at your institution (e.g. Office of the Gene Technology Regulator - OGTR).

Regulatory Requirements for Deuterated Molecule Synthesis *

Are there any regulatory requirements associated with your requested molecule/s?

Please provide any information as necessary, including any approvals or conditions you are required to fulfil at your institution (e.g. Office of the Gene Technology Regulator - OGTR).

Click save

Click next

8.3. Tab 3: Techniques

Select the NDF technique(s) required for your proposal (NDF - Biodeuteration or NDF - Chemical Deuteration). If your research requires both NDF capability techniques, please submit separate proposals. You must select the NDF Scientist(s) with whom you have discussed this proposal (if any).

8.3.1. Technique Selection

For each NDF technique selected, you must select the technique required for your proposal including Biodeuteration or Chemical Deuteration. You will need to enter the requested number of molecules and choose a local contact for the proposal.

1. Select Deuteration
2. Select a technique from the adjacent drop-down menu
3. Click add technique
4. Enter the following information for the requested instrument:
 - Add number of requested molecules
 - Scientists (this should indicate any NDF team members you have discussed the proposal with)
5. Click save
6. Click next

Capability Type	Technique	Requested
Deuteration	NDF - Biodeuteration	9 Molecul

Scientists: Choose

Requested:

8.4. Tab 4: Submit

When you have finished compiling your proposal you are required to select the 'submit' tab. The research portal will check there are no errors and the terms and conditions have been accepted prior to submission.

8.4.1. Error correction

If there are missing compulsory fields (indicated throughout by a **red asterisk ***), error messages will be highlighted in red on your screen. Fix any omissions if you see any error messages, as you will not be able to submit the proposal until this is done.


Please review and accept the sections below to submit your proposal for review. If you have any queries regarding these items, please contact the NDF via ndf-enquiries@ansto.gov.au.

Error: You cannot submit due to the following errors:

Main Tab

Financial Information *

Have you budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, please provide details, including details of any discussions you have had with NDF staff.

 This value should not be blank.

[Go to question](#)

8.4.2. Potential Cost Recovery Fees

Requests for multiple-labelled proteins (e.g. with ^2H plus ^{13}C and/or ^{15}N) will involve some recovery of the cost of isotopically labelled materials used in production. Proposals for experimental applications in countries other than Australia will be subject to partial cost recovery/collaboration.

Some delivery charges incurred by NDF will be subject to cost recovery (e.g. dry ice shipments). Large mass or number of molecules will be subject to negotiation and will potentially be subject to partial cost recovery.

I accept the Potential Cost Recovery Fees

Requests for multiple-labelled proteins (e.g. with ^2H plus ^{13}C and/or ^{15}N) will involve some recovery of the cost of isotopically labelled materials used in production.

Proposals for experimental applications in countries other than Australia will be subject to partial cost recovery/collaboration.

Some delivery charges incurred by NDF will be subject to cost recovery (e.g. dry ice shipments).

Large mass or number of molecules will be subject to negotiation and will potentially be subject to partial cost recovery.

Yes

No

8.4.3. Authorship agreement

Co-authorship of publications arising from use of NDF-produced molecules through the merit and user pays/collaboration access models is expected due to the substantial time (weeks to months) and degree of difficulty in isotopically labelling molecules that are not usually available from other sources.

The following acknowledgment is to be added to any resulting publications: "The National Deuteration Facility is partly funded by the National Collaborative Research Infrastructure Strategy (NCRIS) – an Australian Government initiative."

I accept the Authorship agreement

Co-authorship of publications arising from use of NDF-produced molecules through the merit and user pays/collaboration access models is expected due to the substantial time (weeks to months) and degree of difficulty in isotopically labelling molecules that are not usually available from other sources.

The following acknowledgment is to be added to any resulting publications: "The National Deuteration Facility is partly funded by the National Collaborative Research Infrastructure Strategy (NCRIS) – an Australian Government initiative."

Yes

No

8.4.4. Submission

Once the terms and conditions have been accepted, click submit.

Further information on NDF user access can be found [here](#). If you have any queries about these items please contact the NDF Leader and NDF User Program Manager via ndf-enquiries@ansto.gov.au

No further edits can be made to the proposal once it is submitted. If an error or addition needs to be made after submission, please contact user.office.nsw@ansto.gov.au and provide the Proposal ID along with your request for help.

You have successfully submitted proposal N:PP15020

9. Proposal creation: Deuteration/ Neutron proposal

This proposal type is for access proposal to ACNS instruments and NDF techniques where deuterated molecule/s are required for the proposed neutron experiments at ACNS.

1. Click the proposals tab
2. Click create new proposal
3. Click Australian Centre for Neutron Scattering or National Deuteration Facility
4. Select the Deuteration/ Neutron proposal type

The screenshot shows two facility selection options. The first is 'National Deuteration Facility' with a minus sign icon. Below it is a purple button labeled 'Deuteration / Neutron'. The second is 'Australian Centre for Neutron Scattering' with a plus sign icon. Below it is a teal button labeled 'Deuteration / Neutron'.

5. Input text into questions shown below:

Proposal Title*: Please provide a short, descriptive title for your proposal. This field will not accept superscripts, subscripts, other alphabet letters etc.

Proposal Type*: The proposal type defaults to the type of proposal you selected on the previous page.

Proposal Round*: Only rounds that are currently open will be available and one must be selected.

Principal Scientist: select by typing surname or first name and selecting from names available. If the required name is not available, please select the 'Create User' option. If you choose this option a pop-up 'Add a new user' box will appear.

6. Click create

The screenshot shows the 'Deuteration / Neutron' proposal form. It includes a description: 'Merit access proposal for ACNS instruments and NDF capabilities where deuterated molecule/s are required for the proposed neutron experiments at ACNS.' The form has the following fields:

- Proposal Title ***: Provide a short descriptive title (text input field).
- Proposal Type ***: Radio button selected for 'Deuteration and Neutron Proposal: Deuteration/Neutron'.
- Proposal Round ***: Radio button selected for 'ACNS & NDF: 2023-1: (Submissions due on September 15)'.
- Principal Scientist**: Text input field.

 A 'Create' button is located at the bottom left of the form.

9.1. Tab 1: Main

A table with the proposal detail is visible on the first tab. This table includes details such as:

- Proposal number/ ID
- Proposal round
- Proposal type
- Proposal status

This data has been populated from the previous step and cannot be modified.

Main

D/N14954: tset

Save Next Cancel

Proposal Details

ID	D/N14954
Title	<input style="width: 90%;" type="text"/>
Round	ACNS & NDF: 2023-1
Type	Deuteration and Neutron Proposal
Status	In Preparation

Keywords

List up to 4 keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

9.1.1. Keywords

List up to four keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

Keywords

List up to 4 keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

9.1.2. Collaborators

Enter the details of all researchers involved with this proposal including students. Please ensure you include all ANSTO staff who will contribute to this proposal and any people who will be associated with the outputs and outcomes of this project.

<p>Adding an existing collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator 2. Click on your collaborator's name 3. Click add user 4. Tick first time user if your collaborator is accessing ANSTO facilities for the first time 5. Select student type to indicate what level your collaborator is studying at.
<p>Adding a new collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator – if their name does not appear you will need to follow the below steps: 2. Click create user 3. Complete the details in the pop-up window 4. Click create
<p>Selecting an organisation</p>	<ol style="list-style-type: none"> 1. Enter the beginning of the name of the organisation. The closest match will appear 2. Click on the organisation name to select
<p>Adding a new organisation</p> <p><i>This step is only required if your organisation is not listed in the drop-down menu when creating a new collaborator.</i></p>	<ol style="list-style-type: none"> 1. Click create 2. Click close

Considerations



- There can be only one Principal Scientist for each proposal and only the Principal Scientist can submit a proposal
- If you would like any of your co-proposers to be able to edit the proposal (have read and write access) please select '*Co-proposer – editor*' in the Role field.
- If a person has not used the ACNS neutron instruments/NDF capabilities before, check the *First Time User* box field.
- If the person is a student, use the dropdown list to select the *Student Type* (Honours, Masters, PhD). If you select a Student Type, enter the student's Supervisor Name.
- It is expected that the Principal Scientist submitting the proposal has spoken with relevant ANSTO Staff about the proposal prior to submission.

9.1.3. Categorisation

Under categorisation there are a series of fields and questions that are to be completed if applicable to your proposal. These fields include:

1. Enter the details for the fields below where applicable:

- **Scientific area**

Indicate in which of the given scientific areas your proposal should be reviewed.

Scientific Area

Please indicate in which of the given scientific areas your proposal should be reviewed. You can provide more details in the keyword section.

- **Intellectual Property**

Select 'yes or no' if there is intellectual property associated with this proposal. If yes, add details in the text box provided.

I.P. Issues

Yes

No

Intellectual Property Details

Maximum 1000 characters

- **Student thesis**

Select 'yes or no' if this work forms a critical part of a student thesis. If yes, add details in the text box provided.

Does this form a critical part of a student thesis?

Yes

No

Thesis Details

If so, please provide the name of the student, organisation, thesis title and expected submission date.

- **Participation***

You must indicate if you or any of your team wish to participate in the production, purification and/or characterisation of isotopically labelled molecules at the NDF. If yes, please indicate who and their career details.

Participation *

Do you or any of your team wish to participate in the production, purification and/or characterisation of isotopically labelled molecules at the NDF?

Yes

No

If yes, please indicate who, their career stage (e.g. PhD student) and what type of involvement is being requested. It is recommended to discuss this with the NDF pre-submission.

- **Research Funding**

Check relevant option(s) for any funding bodies who have awarded funds to this project.

Research Funding

Name any funding bodies who have awarded funds to this project.

Internal Funding

ARC Funding

NH&MRC Funding

Industry Funding

- **Financial Information***

You must indicate if you have budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, provide details, including details of any discussions they have had with NDF staff.

Financial Information *

Have you budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, please provide details, including details of any discussions you have had with NDF staff.

- **Experience**

Indicate if you or any of your listed collaborators, are an early career researcher or a novice user of neutrons.

Are you an early career researcher (ECR, less than 5 years post doctoral experience)? Are you a novice user of neutrons (less than 3 years experience)?

Please indicate answers to these questions here and add any further information you deem relevant.

- **Industrial Relevance and Industrial Involvement**

Select the industrial relevance category appropriate for this project.

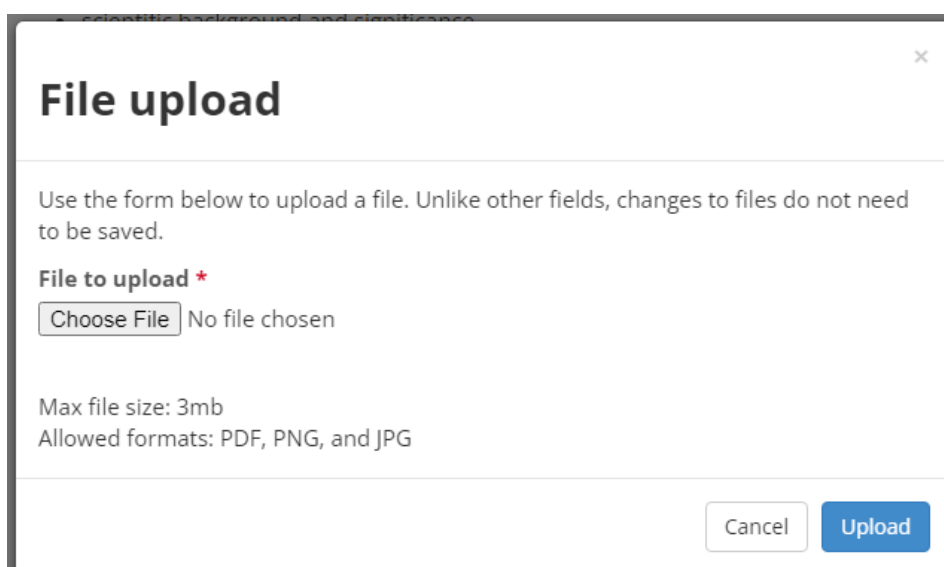
Industrial Relevance <input type="text"/>
Industrial Involvement Name of Company involved <input type="text"/>

2. Click save
3. Click next

9.2. Tab 2: Science and Synthesis

9.2.1. Proposed Research (PDF) *

1. Upload a three-page PDF (maximum) describing their neutron experiment/s including use and justification of deuterated molecule/s using the following as headings:
 - Scientific background and significance,
 - Aim of the proposed experiment/s,
 - Scientific importance of the proposed measurements,
 - Describe how the deuterated molecule/s will be utilised in the proposed experiments and how they will assist the investigation,
 - Description of experiment (detailed)
 - Describe results of preliminary work and/or characterisation (e.g. X-rays, NMR),
 - Describe previous work using either neutrons or deuterated molecules.
 - Reason for choice of requested instrument/s
 - Describe how the requested beam time was calculated (depending on number of samples, and sample-environment conditions such as temperature, etc. for each sample),
 - Overview of how the experimental data will be analysed
 - Please reference publications relevant to your proposed research (add DOI links if available)
 - Relevant figures
2. Click upload
3. Click choose file
4. Click upload



File upload

Use the form below to upload a file. Unlike other fields, changes to files do not need to be saved.

File to upload *

No file chosen

Max file size: 3mb
Allowed formats: PDF, PNG, and JPG

4. Click save
5. Click next

Proposed Research (PDF) *

Please upload a 3 page PDF (PORTRAIT ONLY, NOT LANDSCAPE USING A 12-POINT FONT) of your proposed research. The maximum file size is 3MB.

NOTE: specific Deuteration details will be requested in other fields within this Science section.

Describe your neutron experiment/s including use and justification of deuterated molecule/s using the following as headings:

- Scientific background and significance,
- Aim of the proposed experiment/s,
- Scientific importance of the proposed measurements,
- Describe how the deuterated molecule/s will be utilised in the proposed experiments and how they will assist the investigation,
- Description of experiment (detailed)
- Describe results of preliminary work and/or characterisation (e.g. X-rays, NMR),
- Describe previous work using either neutrons or deuterated molecules.
- Reason for choice of requested instrument/s
- Describe how the requested beam time was calculated (depending on number of samples, and sample-environment conditions such as temperature, etc. for each sample),
- Overview of how the experimental data will be analysed
- Please reference publications relevant to your proposed research (add DOI links if available)

[Test document.pdf](#)

Replace

Delete

PDF Upload Considerations



- The maximum file size is 3MB.
- 3 page maximum.
- The PDF layout must be portrait only. Landscape layout is not accepted.
- 12-point font only.

9.2.2. Molecule/s to be deuterated or multiple labelled

Molecule/s to be deuterated or multiple labelled (Note: maximum of 2 per proposal unless otherwise agreed to by NDF management)	
Molecule name	Full and any abbreviation
Molecule structure	As applicable
Deuteration level	Add as percentage required. Include justification for the desired level
Isotopic labelling details	Describe if uniform, selective or segmental labelling required. If selective or segmental labelling, please describe in detail and/or attach a drawing to the Figures section showing sites required and optional sites
Form of molecule requested	For example biomass/cell paste, partially purified, fully purified
Quantity required	Specify minimum workable quantity and ideal quantity for your experimental application/s. Please indicate if the quantity requested will be utilised in multiple experiments.

9.2.3. Additional Questions: Biodeuteration

Do you require Biodeuteration - protein or other biosynthetically produced molecules?

If you select 'yes' to this question you will be required to provide additional information in the field provided in regards to the following:

<p>Method for production For 1H (protonated) form of molecule (if known), use the following as headings to provide information and describe as applicable for each molecule (add references as needed):</p>	<ul style="list-style-type: none"> • Host microorganism (e.g. <i>E.coli</i> BL21, <i>S. cerevisiae</i>). Indicate if you can provide the microbe if you have a bio-engineered or specific microbe for production of your requested molecule. • Scale of production • Culture inoculation preparation • Growth conditions (medium – rich or minimal, temperature, timeframes etc) • Expression conditions (induction OD/temperature for proteins, expression time etc) • Solubility and stability characteristics • Storage conditions • Add any relevant data to indicate method outcomes (e.g. yield) • Add expression SDS-PAGE images in the Proposed Research PDF for protein/s • If purification method is known, please describe in the Purification section or add relevant reference/s.
<p>Recombinant protein expression Use the following as headings to provide information and describe for each protein and corresponding plasmid (add references as needed):</p>	<ul style="list-style-type: none"> • Protein and Expression Plasmid Do you have a plasmid readily for provision to the NDF? If you don't currently have a plasmid, please contact NDF to discuss further. Note: NDF preferred plasmids for reliable protein deuteration encode for kanamycin resistance and the <i>lacI</i> repressor (e.g. pET28a or similar). <ul style="list-style-type: none"> ○ Protein UniProt/SwissProt ID ○ Species of origin (e.g. human, mouse, bacterial) ○ Plasmid (name and describe, indicate commercial/non-commercial and history) ○ Antibiotic selection ○ Induction (e.g. IPTG) ○ Expression tags (describe any N- or C- terminal) ○ Molecular weight, kDa (of expressed protein with and without tags as applicable) ○ Mutations or modifications (if applicable) ○ Protein toxicity to host organism (if applicable)

9.2.4. Additional Questions: Chemical Deuteration

Do you require Chemical Deuteration via exchange and synthesis? If you select 'yes' to this question you will be required to provide additional information in the field provided in regards to the following:

Method for production

- Have you produced the molecule in ^1H (protonated) form? If yes, please add the following:
 - Reaction scheme – add drawing as Figure or reference/s
 - Method (as much detail as possible) or reference/s
 - If purification method known, please describe in the Purification section or add relevant reference/s.

9.2.5. Purification Method

This field has been provided for the proposer to describe proven purification method (in ^1H or ^2H , or multiple labelled form) for each molecule requested. You must include materials and equipment required and quantification method along with references if known.

Purification Method (if known)

Describe proven purification method (in ^1H or ^2H , or multiple labelled form) for each molecule requested.

Include materials and equipment required and quantification method along with references (indicate designer of method if reference/s not available).

9.2.6. Safety hazards for deuterated molecule synthesis*

If the requested molecule/s represent any actual or potential hazard to human health, other organisms or the environment, this must be explained further in the field provided. You must describe each molecule, indicating handling and hazard minimisation conditions required; and also information on what approval/s and/or conditions have been required to fulfil for each molecule at your institution/s?

Safety Hazards for Deuterated Molecule Synthesis *

Does the requested molecule/s represent any actual or potential hazard to human health, other organisms or the environment?
Please describe for each molecule, indicating handling and hazard minimisation conditions required.
What approval/s and/or conditions have you been required to fulfil for each molecule at your institution/s?

9.2.7. Regulatory requirements for deuterated molecule synthesis*

If there are any regulatory requirements associated with the requested molecule/s, provide any information as necessary, including any approvals or conditions you are required to fulfil at your institution (e.g. Office of the Gene Technology Regulator - OGTR).

Regulatory Requirements for Deuterated Molecule Synthesis *

Are there any regulatory requirements associated with your requested molecule/s?
Please provide any information as necessary, including any approvals or conditions you are required to fulfil at your institution (e.g. Office of the Gene Technology Regulator - OGTR).

Click save

Click next

9.3. Tab 3: Instruments

On the instruments tab you can select one or more neutron instruments, ACNS non-neutron instruments and NDF techniques.

9.3.1. Neutron Instrument selection

1. Select Neutron Instrument
2. Select an instrument from the adjacent drop-down menu
3. Click add instrument
4. Enter the following information for the requested instrument:
 - Add number of requested days
 - Experimental Setup*
 - Request a scientist/s
 - Sample environment
 - Laboratory Ancillaries
5. Repeat the steps above for any additional neutron instruments
6. Click save

Analysis Type	Instrument	Requested
Neutron Instrument	BILBY	9 Days
Experimental Setup [Neutron Instrument only] Please provide the instrumental settings you require on the instrument in order to carry out your experiment, such as resolution, wavelength, Q-range, and so on.		
Scientists Choose Sample Env Choose Lab Ancillaries Choose		Requested

9.3.2. Non-Neutron Instrument selection

1. Select Non-Neutron Instrument
2. Select an instrument from the adjacent drop-down menu.
3. Click add instrument
4. Enter the following information for the requested instrument:
 - Add number of requested days
 - Experimental Setup*
 - Request a scientist/s
5. Repeat the steps above for any additional non-neutron instruments
6. Click save

9.3.3. Technique Selection

For each NDF technique selected, you must select the technique required for your proposal including Biodeuteration or Chemical Deuteration. You will need to enter the requested number of molecules and choose a local contact for the proposal.

1. Select Deuteration
2. Select a technique from the adjacent drop-down menu
3. Click add technique
4. Enter the following information for the requested instrument:
 - Add number of requested molecules
 - Scientists (this should indicate any NDF team members you have discussed the proposal with)
5. Repeat the steps above for any additional NDF techniques.
6. Click save

9.3.4. Deuterated molecule/s supply*

You must indicate how far in advance of neutron experiments you require provision of the requested deuterated molecules/s and where they are to be delivered.

Deuterated Molecule/s Supply *

Please indicate how far in advance of neutron experiments you require provision of the requested deuterated molecules/s and where they are to be delivered.

Click save

Click next

9.4. Tab 4: Samples

This tab is for Neutron experiments only

This section provides a space for you to add samples and chemicals (such as solvents) related to your proposal. Each sample will need to be added separately and detailed sample information will need to be provided, including an SDS (where possible).

All items that are going to be irradiated in the neutron beam (for example your sample container/holder, or equipment/vessel you provide) must also be listed as a sample in this section.

By providing detail information regarding your samples will enable ANSTO to fulfil regulatory requirements and to assist the completion of a risk-based safety review of your proposal.

9.4.1. Sample Creation

1. Click create new sample
2. Enter the following information for each sample:
 - Description*
 - Sample Form* (select from drop down list)
 - Chemical Formula or Chemical Composition*
 - CAS Number
 - Hazards* (click in box, select 1 or more from drop down list)
 - Amount (mass g or volume ml)*
 - Safety Comment
 - Crystalline sample*; if yes then add lattice parameters
 - Sample prepared* (select from drop down list)
 - Date ready
 - Disposal method (select from drop down list)
 - Australian Safety Data Sheet* – file upload available
3. Click save

Samples

D/N15026: test

Previous Next Exit

This tab is for Neutron experiments only

Please add each sample separately. When you add a sample you will also be asked for detailed sample information and an SDS (where possible). This information allows us to fulfil our regulatory requirements and to assist the completion of a risk-based safety review of your proposal. Make sure you also add any extra samples and any other chemicals (for example: solvents) that you may be bringing with you. This ensures that we have an SDS for every chemical brought to ANSTO. All items that are going to be irradiated in the neutron beam (e.g. your sample container/holder, or equipment/vessel you provide) must be listed as a sample here so that mandatory activation calculations can be performed for all materials in the beam. If you need to add a sample or equipment after your proposal has been approved, contact the ACNS User Office.

+ Create new sample

Sample	Details	Copy
No samples yet		

Description *	<input type="text"/>
Sample Form *	<input type="text" value="Solid"/>
Chemical Formula or Chemical Composition *	<input type="text"/>
CAS Number	<input type="text"/>
Hazards *	<input type="text"/>
Amount (mass g or volume ml) *	<input type="text"/>

If there is no Australian Safety Data Sheet available at the time of submission, you must declare the following information. If you have a sample for which these questions do not apply, leave them blank:

- Contact Details/Ownership
- Date Completed
- Precautions for Handling
- Dangerous Goods Class Primary and Secondary
- Packing Group
- UN Number
- Appearance
- Odour
- Solubility (water/solvents)
- pKa
- Flash point
- Specific Gravity
- Bulk density
- Particle Size
- Viscosity
- Boiling Point
- Melting Point

9.4.2. Creating additional samples

If additional samples are required, add each sample separately. To add a new sample you must:

1. Click create new sample
2. Enter the following information for each sample:
 - Description*

- Sample Form* (select from drop down list)
- Chemical Formula or Chemical Composition*
- CAS Number
- Hazards* (click in box, select 1 or more from drop down list)
- Amount (mass g or volume ml)*
- Safety Comment
- Crystalline sample*; if yes then add lattice parameters
- Sample prepared* (select from drop down list)
- Date ready
- Disposal method (select from drop down list)
- Australian Safety Data Sheet* – file upload available

3. Click save
4. Click next

9.5. Tab 5: Submit

When you have finished compiling your proposal you are required to select the 'submit' tab. The research portal will check there are no errors and the terms and conditions have been accepted prior to submission.

9.5.1. Error correction

If there are missing compulsory fields (indicated throughout by a **red asterisk ***), error messages will be highlighted in red on your screen. Fix any omissions if you see any error messages, as you will not be able to submit the proposal until this is done.

This is where you submit your proposal for review.

Error: You cannot submit due to the following errors:

Instruments Tab

Go to question

Samples Tab

Sample: test sample

Upload the SDS *

This value should not be blank.

Go to question

9.5.2. Terms and conditions

Before submitting a proposal, you must review the terms and conditions for the use of neutrons at ANSTO. A proposer will be unable to submit a proposal until the terms and conditions have been accepted.

This is where you submit your proposal for review.

Terms and Conditions *

Click Yes to agree with the [terms and conditions for the use of neutrons at ANSTO.](#)

Yes

No

Submit

9.5.3. Potential Cost Recovery Fees

Large mass or number of molecules will be subject to negotiation and will potentially be subject to partial cost recovery. Some delivery charges incurred by NDF will be subject to cost recovery (e.g. dry ice shipments).

I accept the Potential Cost Recovery Fees

Large mass or number of molecules will be subject to negotiation and will potentially be subject to partial cost recovery. Some delivery charges incurred by NDF will be subject to cost recovery (e.g. dry ice shipments).

- Yes
 No

9.5.1. Authorship agreement

Co-authorship of publications arising from use of NDF-produced molecules through the merit and user pays/collaboration access models is expected due to the substantial time (weeks to months) and degree of difficulty in isotopically labelling molecules that are not usually available from other sources.

The following acknowledgment is to be added to any resulting publications: "The National Deuteration Facility is partly funded by the National Collaborative Research Infrastructure Strategy (NCRIS) – an Australian Government initiative."

I accept the Authorship agreement

Co-authorship of publications arising from use of NDF-produced molecules through the merit and user pays/collaboration access models is expected due to the substantial time (weeks to months) and degree of difficulty in isotopically labelling molecules that are not usually available from other sources.

The following acknowledgment is to be added to any resulting publications: "The National Deuteration Facility is partly funded by the National Collaborative Research Infrastructure Strategy (NCRIS) – an Australian Government initiative."

- Yes
 No

9.5.2. Submission

Once the terms and conditions have been accepted, click submit.

Further information on NDF user access can be found [here](#). If you have any queries about these items please contact the NDF Leader and NDF User Program Manager via ndf-enquiries@ansto.gov.au

No further edits can be made to the proposal once it is submitted. If an error or addition needs to be made after submission, please contact user.office.nsw@ansto.gov.au and provide the Proposal ID along with your request for help.

You have successfully submitted proposal N:PP15020

9.6. Program Proposal Creation: Deuteration / Neutron

This proposal type is for a program of research of up to 3 years for access to both ACNS instruments and NDF techniques, where deuterated molecule/s are required for the proposed program of research utilising ACNS neutron instruments.

1. Click the proposals tab
2. Click create new proposal
3. Click Australian Centre for Neutron Scattering or National Deuteration Facility
4. Select Program Proposal Deuteration/ Neutron



5. Input text into questions shown below:
 - **Proposal Title***: Please provide a short, descriptive title for your proposal. This field will not accept superscripts, subscripts, other alphabet letters etc.
 - **Proposal Type***: The proposal type defaults to the type of proposal you selected on the previous page.
 - **Proposal Round***: Only rounds that are currently open will be available and one must be selected.
 - **Principal Scientist**: select by typing surname or first name and selecting from names available. If the required name is not available, please select the 'Create User' option. If you choose this option a pop-up 'Add a new user' box will appear.
6. Click create

Program Proposal – Deuteration / Neutron

Merit access proposal for a program of research of up to 3 years for access to both ACNS instruments and NDF capabilities, where deuterated molecule/s are required for the proposed program of research utilising ACNS neutron instruments.

Proposal Title *
Provide a short descriptive title

Proposal Type *

ACNS & NDF: Neutron and Deuteration Program

Proposal Round *

ACNS & NDF: 2023-1: (Submissions due on September 15)

Principal Scientist

Create

9.7. Tab 1: Main

A table with the proposal detail is visible on the first tab. This table includes details such as:

- Proposal number/ ID
- Proposal round
- Proposal type
- Proposal status

This data has been populated from the previous step and cannot be modified.

Proposal Details	
ID	DN:P15028
Title	test program combined
Round	ACNS & NDF: 2023-1
Type	ACNS & NDF: Neutron and Deuteration Program
Status	In Preparation

9.7.1. Keywords

List up to four keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

Keywords

List up to 4 keywords or phrases which relate to this proposal, separated by commas. Key words are index or subject words which help identify the proposal's topic and objectives.

9.7.2. Collaborators

Enter the details of all researchers involved with this proposal including students. Please ensure you include all ANSTO staff who will contribute to this proposal and any people who will be associated with the outputs and outcomes of this project.

<p>Adding an existing collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator 2. Click on your collaborator's name 3. Click add user 4. Tick first time user if your collaborator is accessing ANSTO instruments and/or NDF facilities for the first time 5. Select student type to indicate what level your collaborator is studying at.
<p>Adding a new collaborator</p>	<ol style="list-style-type: none"> 1. Enter the first name and last name of your collaborator – if their name does not appear you will need to follow the below steps: 2. Click create user 3. Complete the details in the pop-up window 4. Click create
<p>Selecting an organisation</p>	<ol style="list-style-type: none"> 1. Enter the beginning of the name of the organisation. The closest match will appear 2. Click on the organisation name to select
<p>Adding a new organisation</p> <p><i>This step is only required if your organisation is not listed in the drop-down menu when creating a new collaborator.</i></p>	<ol style="list-style-type: none"> 1. Click create 2. Click close

9.7.3. Categorisation

Under categorisation there are a series of fields and questions that are to be completed if applicable to your proposal. These fields include:

1. Enter the details for the fields below where applicable:
 - **Scientific area**
Indicate in which of the given scientific areas your proposal should be reviewed.

Scientific Area

Please indicate in which of the given scientific areas your proposal should be reviewed. You can provide more details in the keyword section.

- **Intellectual Property**

Select 'yes or no' if there is intellectual property associated with this proposal. If yes, add details in the text box provided.

I.P. Issues

Yes
 No

Intellectual Property Details
Maximum 1000 characters

- **Student thesis**

Select 'yes or no' if this work forms a critical part of a student thesis. If yes, add details in the text box provided.

Does this form a critical part of a student thesis?

Yes
 No

Thesis Details
If so, please provide the name of the student, organisation, thesis title and expected submission date.

- **Participation***

You must indicate if you or any of your team wish to participate in the production, purification and/or characterisation of isotopically labelled molecules at the NDF. If yes, please indicate who and their career details.

Participation *

Do you or any of your team wish to participate in the production, purification and/or characterisation of isotopically labelled molecules at the NDF?

Yes
 No

If yes, please indicate who, their career stage (e.g. PhD student) and what type of involvement is being requested. It is recommended to discuss this with the NDF pre-submission.

- **Research Funding**

Check relevant option(s) for any funding bodies who have awarded funds to this project.

Research Funding

Name any funding bodies who have awarded funds to this project.

Internal Funding

ARC Funding

NH&MRC Funding

Industry Funding

- **Financial Information***

You must indicate if you have budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, provide details, including details of any discussions they have had with NDF staff.

Financial Information *

Have you budgeted for the cost or contribution to the cost of the requested deuterated and/or multiple isotopically labelled materials? If yes, please provide details, including details of any discussions you have had with NDF staff.

- **Experience**

Indicate if you or any of your listed collaborators, are an early career researcher or a novice user of neutrons.

Are you an early career researcher (ECR, less than 5 years post doctoral experience)? Are you a novice user of neutrons (less than 3 years experience)?

Please indicate answers to these questions here and add any further information you deem relevant.

- **Industrial Relevance and Industrial Involvement**

Select the industrial relevance category appropriate for this project.

Industrial Relevance

Industrial Involvement

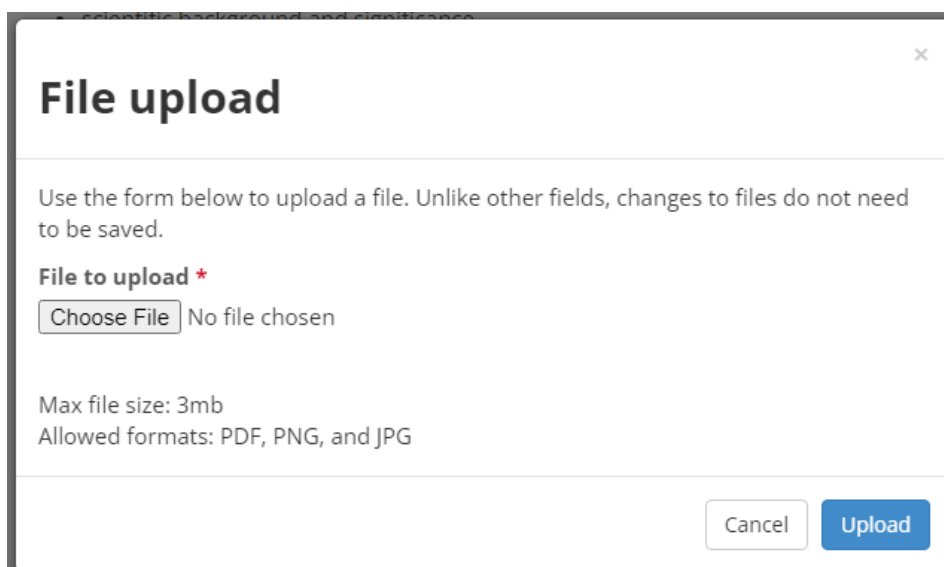
Name of Company involved

2. Click save
3. Click next

9.8. Tab 2: Science and Synthesis

9.8.1. Proposed Program of Research (PDF) *

1. You must upload a PDF of your proposed research. Please note, specific Deuteration details are also requested in other fields within this section in the portal. You must describe your neutron experiment/s including use and justification of deuterated molecule/s for the proposed program of research and you must include the following information:
 - Aim/s of the proposed research and scientific background/significance
 - Scientific importance of the proposed experiments
 - The vision that demonstrates that this research merits the status of an integrated program, rather than a series of normal (6-month round) proposals
 - Indicative description of the neutron experiments to be carried out over the course of the program including a description of how the deuterated molecule/s will be utilised and how they will assist the investigation
 - A generic list of samples for the neutron experiments with a provisional schedule of expected beamtime and deuterated molecule/s requirements
 - A plan for implementation of the program including timeline
 - Reason for choice of requested instrument/s and deuterated molecule/s
 - Description of results of preliminary work and/or characterisation (e.g. using x-rays, NMR, etc.)
 - Brief description of your experience and track record with neutron scattering techniques and use of deuterated molecules
 - Please reference publications relevant to your proposed research (add DOI links if available)
2. Click upload
3. Click choose file
4. Click upload



File upload

Use the form below to upload a file. Unlike other fields, changes to files do not need to be saved.

File to upload *

No file chosen

Max file size: 3mb
Allowed formats: PDF, PNG, and JPG

6. Click save
7. Click next

Science and Synthesis

DN:P15028: test program combined

Proposed Program of Research (PDF) *

Please upload a PDF (MAX 6 PAGES, PORTRAIT ONLY, NOT LANDSCAPE USING A 12-POINT FONT) of your proposed research. The maximum file size is 3MB with maximum 5000 words.

NOTE: specific Deuteration details will be requested in other fields within this Science section.

Describe your neutron experiment/s including use and justification of deuterated molecule/s for the proposed program of research and you must include the following information:

- Aim/s of the proposed research and scientific background/significance
- Scientific importance of the proposed experiments
- The vision that demonstrates that this research merits the status of an integrated program, rather than a series of normal (6-month round) proposals
- Indicative description of the neutron experiments to be carried out over the course of the program including a description of how the deuterated molecule/s will be utilised and how they will assist the investigation
- A generic list of samples for the neutron experiments with a provisional schedule of expected beamtime and deuterated molecule/s requirements
- A plan for implementation of the program including timeline
- Reason for choice of requested instrument/s and deuterated molecule/s
- Description of results of preliminary work and/or characterisation (e.g. using x-rays, NMR, etc.)
- Brief description of your experience and track record with neutron scattering techniques and use of deuterated molecules
- Please reference publications relevant to your proposed research (add DOI links if available)

PDF Upload Considerations

- The maximum file size is 3MB.
- Maximum of 6 pages.
- The PDF layout must be portrait only using a 12-point font. Landscape layout is not accepted.

9.8.2. Molecule/s to be deuterated or multiple labelled

Molecule/s to be deuterated or multiple labelled (Note: maximum of 2 per proposal unless otherwise agreed to by NDF management)	
Molecule name	Full and any abbreviation
Molecule structure	As applicable
Deuteration level	Add as percentage required. Include justification for the desired level
Isotopic labelling details	Describe if uniform, selective or segmental labelling required. If selective or segmental labelling, please describe in detail and/or attach a drawing to the Figures section showing sites required and optional sites
Form of molecule requested	For example biomass/cell paste, partially purified, fully purified
Quantity required	Specify minimum workable quantity and ideal quantity for your experimental application/s. Please indicate if the quantity requested will be utilised in multiple experiments.

9.8.3. Additional Questions: Biodeuteration

Do you require Biodeuteration - protein or other biosynthetically produced molecules?

If you select 'yes' to this question you will be required to provide additional information in the field provided in regards to the following:

<p>Method for production For ^1H (protonated) form of molecule (if known), use the following as headings to provide information and describe as applicable for each molecule (add references as needed):</p>	<ul style="list-style-type: none"> • Host microorganism (e.g. <i>E.coli</i> BL21, <i>S. cerevisiae</i>). Indicate if you can provide the microbe if you have a bio-engineered or specific microbe for production of your requested molecule. • Scale of production • Culture inoculation preparation • Growth conditions (medium – rich or minimal, temperature, timeframes etc) • Expression conditions (induction OD/temperature for proteins, expression time etc) • Solubility and stability characteristics • Storage conditions • Add any relevant data to indicate method outcomes (e.g. yield) • Add expression SDS-PAGE images in the Proposed Research PDF for protein/s • If purification method is known, please describe in the Purification section or add relevant reference/s.
<p>Recombinant protein expression Use the following as headings to provide information and describe for each protein and corresponding plasmid (add references as needed):</p>	<ul style="list-style-type: none"> • Protein and Expression Plasmid Do you have a plasmid readily for provision to the NDF? If you don't currently have a plasmid, please contact NDF to discuss further. Note: NDF preferred plasmids for reliable protein deuteration encode for kanamycin resistance and the <i>lacI</i> repressor (e.g. pET28a or similar). <ul style="list-style-type: none"> ○ Protein UniProt/SwissProt ID ○ Species of origin (e.g. human, mouse, bacterial) ○ Plasmid (name and describe, indicate commercial/non-commercial and history) ○ Antibiotic selection ○ Induction (e.g. IPTG) ○ Expression tags (describe any N- or C- terminal) ○ Molecular weight, kDa (of expressed protein with and without tags as applicable) ○ Mutations or modifications (if applicable) ○ Protein toxicity to host organism (if applicable)

9.8.4. Additional Questions: Chemical Deuteration

<p>Do you require Chemical Deuteration via exchange and synthesis? If you select 'yes' to this question you will be required to provide additional information in the field provided in regards to the following:</p>	
<p>Method for production</p>	<ul style="list-style-type: none"> • Have you produced the molecule in ^1H (protonated) form? If yes, please add the following: <ul style="list-style-type: none"> ○ Reaction scheme – add drawing as Figure or reference/s

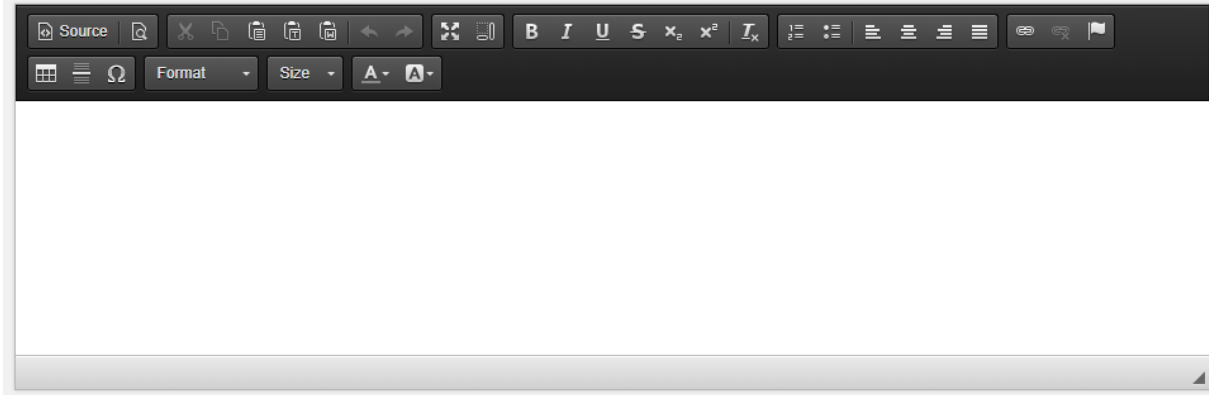
	<ul style="list-style-type: none"> ○ Method (as much detail as possible) or reference/s ○ If purification method known, please describe in the Purification section or add relevant reference/s.
--	--

9.8.5. Purification Method

This field has been provided for the proposer to describe proven purification method (in 1H or 2H, or multiple labelled form) for each molecule requested. You must include materials and equipment required and quantification method along with references if known.

Purification Method (if known)

Describe proven purification method (in ¹H or ²H, or multiple labelled form) for each molecule requested. Include materials and equipment required and quantification method along with references (indicate designer of method if reference/s not available).

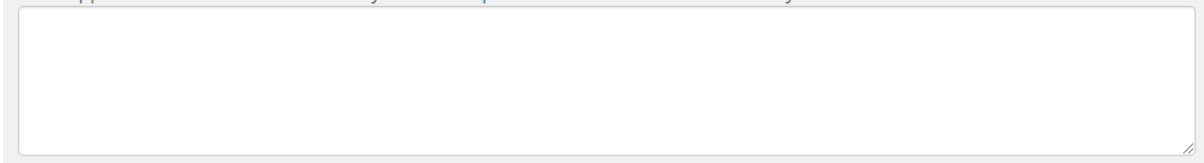


9.8.6. Safety hazards for deuterated molecule synthesis*

If the requested molecule/s represent any actual or potential hazard to human health, other organisms or the environment, this must be explained further in the field provided. You must describe each molecule, indicating handling and hazard minimisation conditions required; and also information on what approval/s and/or conditions have been required to fulfil for each molecule at your institution/s?

Safety Hazards for Deuterated Molecule Synthesis *

Does the requested molecule/s represent any actual or potential hazard to human health, other organisms or the environment? Please describe for each molecule, indicating handling and hazard minimisation conditions required. What approval/s and/or conditions have you been required to fulfil for each molecule at your institution/s?



9.8.7. Regulatory requirements for deuterated molecule synthesis*

If there are any regulatory requirements associated with the requested molecule/s, provide any information as necessary, including any approvals or conditions you are required to fulfil at your institution (e.g. Office of the Gene Technology Regulator - OGTR).

Regulatory Requirements for Deuterated Molecule Synthesis *

Are there any regulatory requirements associated with your requested molecule/s?

Please provide any information as necessary, including any approvals or conditions you are required to fulfil at your institution (e.g. Office of the Gene Technology Regulator - OGTR).

5. Click save
6. Click next

9.9. Tab 3: Instruments

On the instruments tab you can select one or more ACNS neutron instruments, non-neutron instruments and NDF techniques. **Information entered and selections made here should reflect the first 6 months of your proposed program of work.**

9.9.1. Neutron Instrument selection

1. Select Neutron Instrument
2. Select an instrument from the adjacent drop-down menu
3. Click add instrument
4. Enter the following information for the requested instrument:
 - Add number of requested days
 - Experimental Setup*
 - Request a scientist/s
 - Sample environment
 - Laboratory Ancillaries
5. Repeat the steps above for any additional neutron instruments
6. Click save

Analysis Type	Instrument	Requested
Neutron Instrument	BILBY	9 Days <input type="button" value="x"/>
Experimental Setup [Neutron Instrument only] Please provide the instrumental settings you require on the instrument in order to carry out your experiment, such as resolution, wavelength, Q-range, and so on.		
<input type="text"/>		
<input type="button" value="Scientists"/> Choose <input type="button" value="x"/>	<input type="button" value="Sample Env"/> Choose <input type="button" value="x"/>	<input type="button" value="Requested"/>
<input type="button" value="Lab Ancillaries"/> Choose <input type="button" value="x"/>		<input type="text"/>

9.9.2. Non-Neutron Instrument selection

1. Select Non-Neutron Instrument
2. Select an instrument from the adjacent drop-down menu.
3. Click add instrument
4. Enter the following information for the requested instrument:
 - Add number of requested days
 - Experimental Setup*
 - Request a scientist/s
5. Repeat the steps above for any additional non-neutron instruments
6. Click save

ACNS: Non-Neutron Instrument Imaging Ellipsometer 8 | Days ✕

Experimental Setup
 [Neutron Instrument only] Please provide the instrumental settings you require on the instrument in order to carry out your experiment, such as resolution, wavelength, Q-range, and so on.

Scientists Choose Requested

9.9.3. Technique Selection

1. Select Deuteration
2. Select a technique from the adjacent drop-down menu
3. Click add technique
4. Enter the following information for the requested instrument:
 - Add number of requested molecules
 - Scientists (this should indicate any NDF team members you have discussed the proposal with)
5. Repeat the steps above for any additional NDF techniques.
6. Click save

Deuteration NDF - Biodeuteration 8 | Molecul ✕

Experimental Setup
 [Neutron Instrument only] Please provide the instrumental settings you require on the instrument in order to carry out your experiment, such as resolution, wavelength, Q-range, and so on.

Scientists Choose Requested

Click save

Click next

9.10. Tab 4: Submit

When you have finished compiling your proposal you are required to select the 'submit' tab. The research portal will check there are no errors and the terms and conditions have been accepted prior to submission.

9.10.1. Error correction

If there are missing compulsory fields (indicated throughout by a **red asterisk ***), error messages will be highlighted in red on your screen. Fix any omissions if you see any error messages, as you will not be able to submit the proposal until this is done.

This is where you submit your proposal for review.

Error: You cannot submit due to the following errors:

9.10.2. Terms and conditions

Before submitting a proposal, you must review the terms and conditions for the use of neutrons at ANSTO. A proposer will be unable to submit a proposal until the terms and conditions have been accepted.

This is where you submit your proposal for review.

Terms and Conditions *

Click Yes to agree with the [terms and conditions for the use of neutrons at ANSTO](#).

Yes

No

Submit

9.10.3. Potential Cost Recovery Fees

Large mass or number of molecules will be subject to negotiation and will potentially be subject to partial cost recovery. Some delivery charges incurred by NDF will be subject to cost recovery (e.g. dry ice shipments).

I accept the Potential Cost Recovery Fees

Large mass or number of molecules will be subject to negotiation and will potentially be subject to partial cost recovery. Some delivery charges incurred by NDF will be subject to cost recovery (e.g. dry ice shipments).

Yes

No

9.10.4. Authorship agreement

Co-authorship of publications arising from use of NDF-produced molecules through the merit and user pays/collaboration access models is expected due to the substantial time (weeks to months) and degree of difficulty in isotopically labelling molecules that are not usually available from other sources.

The following acknowledgment is to be added to any resulting publications: "The National Deuteration Facility is partly funded by the National Collaborative Research Infrastructure Strategy (NCRIS) – an Australian Government initiative."

I accept the Authorship agreement

Co-authorship of publications arising from use of NDF-produced molecules through the merit and user pays/collaboration access models is expected due to the substantial time (weeks to months) and degree of difficulty in isotopically labelling molecules that are not usually available from other sources.

The following acknowledgment is to be added to any resulting publications: "The National Deuteration Facility is partly funded by the National Collaborative Research Infrastructure Strategy (NCRIS) – an Australian Government initiative."

- Yes
 No

9.10.5. Submission

Once the terms and conditions have been accepted, click 'submit'.

Further information on NDF user access can be found [here](#). If you have any queries about these items please contact the NDF Leader and NDF User Program Manager via ndf-enquiries@ansto.gov.au

No further edits can be made to the proposal once it is submitted. If an error or addition needs to be made after submission, please contact user.office.nsw@ansto.gov.au and provide the Proposal ID along with your request for help.

You have successfully submitted proposal N:PP15020

10. Contacts

Contact details for ACNS and NDF scientists can be found using the following links

User Office NSW	Phone: +61 2 9717 9111 Email address: user.office.nsw@ansto.gov.au
Australian Centre for Neutron Scattering	Email address: ACNSenquiries@ansto.gov.au
National Deuteration Facility	Email address: ndf-enquiries@ansto.gov.au

11. Useful Links

- <https://www.ansto.gov.au/our-facilities/australian-centre-for-neutron-scattering/neutron-scattering-instruments>
- <https://www.ansto.gov.au/ndf/staff-list>
- <https://www.ansto.gov.au/our-science/capabilities>.

12. Records

The following records are to be maintained.

File Number	Title	Type	Storage Location	Retention
Rev 0	ACNS - NDF User Guide for Neutron and Deuteration/Neutron Proposal Type Submissions in ARP	Guide	P:\UserOffice\User Office NSW\ANSTO Research Portal\ARP Training Manual Revisions	5 years
Rev 1	ACNS - NDF User Guide for Neutron and Deuteration/Neutron Proposal Type Submissions in ARP	Guide		

13. Revision record

Rev	Description	Date
0	Original issue	16/08/2021
1	References to Anonymised Review and 2022-1 and 2022-2 rounds omitted	11/07/2022
2	Update of document title; Inclusion of screenshots and addition of user account and profile instructions	28/07/2022

End of Guide