Financial Code Generator User Documentation

The Financial Code Generator is a web application used for generating state financial codes for tracking state expenses related to wildfire incidents that the state has a financial interest in. The application also displays information about each fire incident from the Integrated Reporting of Wildland-Fire Information (IRWIN) service and provides some reporting capability.

Viewing Incident Information

All users of the site have access to basic incident information without needing to login. There are two separate types of financial codes: those that are generated during the fire year and may be associated with an incident from IRWIN, and codes that are specified at the beginning of the fire year.

The default page shows the list of codes generated throughout the fire year. Click on a row to view more information about individual incidents. A modal will appear that shows additional DNRC specific information as well as more information about the associated IRWIN incident if one is present. Click on the close button or outside of the modal to close it.

The financial code list can be filtered by using a generic search field, the area and unit dropdowns, as well as the voided and Montana Only checkboxes. The generic search field filters by all of the incident properties visible on the code list page. If the area and unit dropdowns don't contain the item that you are looking for, it means that it isn't present in any codes for the fire year selected.

The other page shows the preseason admin codes. This can be accessed using the `Admin Codes` link on the application header bar. If there are no pre-season codes added for the year, no categories will be shown.

Requesting Elevated Permissions

In order to create new financial codes, you must login to the application and submit a request to have access.

1. Login to the application using the login button to the right in the header. You will be directed to okta.loginmt.com where you can log in to the application using a choice of authentication providers.
2. Once logged in, go to your user profile by clicking on or hovering over your name on the header bar to the right where the login button was, then clicking on `View Profile`. This page shows your current application role and the permissions that you currently have.
3. Click on the `Request Elevated Role` button and fill out your desired application role and the reason why you need access. If you have already submitted a role request, this will show the information about your pending request.

Once you have submitted a request, one of the application administrators will either approve or deny your request. You will recieve an email if the request is approved.

Email notifications

Email notifications are sent out for important application events like user role changes. If you don't want to recieve these emails, you can disable them by going to user setting section of the user profile page and choose which types of emails you want to recieve.

Financial Code Generation

New financial codes can be generated by logged in users with the `Primary`, `Manager`, or `Owner` application roles. This is done on the `New Code` page, which can be reached by the `New Code` link in the header menu. The link only appears when a user is logged in and has the permission to generate financial codes.

Information Gathered

For each financial code, there are two separate groups of information. The first contains details about the fire incident itself, such as its name, the state it occurred in, and the date the fire was discovered. This information is automatically populated from IRWIN, and is entered in the `IRWIN Information` section of the form.

The second set of information contains the information that is required by Montana DNRC business practices and are generated by the FCG user. This information is entered in the `Agency Information` section of the form.

Generating A New Financial Code

Before any information can be entered, the fire year of the IRWIN incident that the financial code will be generated for must be selected using the `Fire Year` dropdown box at the top of the form. Since this defaults to the current fire year, most users won't be able to change it; it will be the only option available to them. For users with the Owner role however, they can use this dropdown to select a previous fire year. This ensures that the agency information and IRWIN incidents for that year will appear as the only options in the form.

Searching and Selecting the IRWIN Incident

In the IRWIN Information section, there is a search bar that can be used to search by either the incident name or unique fire identifier. After pressing the search button, if there is only one incident that matches the given criteria, it will automatically be selected. If there is more than one result, a dialog will appear listing the search results. After a incident is selected, the search controls will disappear, and some data fields from IRWIN will be displayed in its place. If the selected incident needs to be changed, press the `Choose Another Incident` button to clear out the current selection and make the search controls appear again.

Assigning Multiple Financial Codes to one IRWIN Incident

If the selected IRWIN incident already has one or more financial codes assigned to it, a message will be displayed listing the assigned codes and some basic information about them. If current user doesn't have the correct permissions to assign an additional financial code to an incident, the message will have a red background, and the user will be unable to submit the form. To help color-blind users distinguish between warnings and errors, the icons displayed next to the message will be a triangle if it is a warning and a circle if it is an error.

Entering Agency Information

DNRC-specific information is entered using the `Agency Information` section of the form. Here's a brief explanation of what each field should contain:

Name
A short title for what this financial code will be used for. This field will auto-fill and become uneditable if an IRWIN incident is selected. For administrative codes that don't have an IRWIN incident, this field must be manually filled in.

Activity Role
The activity role type that will be associated with the incident. This field is required to generate a financial code.

- **Fire Response and Support Orgs**: Fire response and support orgs are used to segregate costs related to the suppression of wildland fire incidents. A sequential SABHRS org will be assigned in the `9 0` yxxx number series. All suppression incidents will have unique IRWIN ID’s and will pull information from INFORM. Examples:
    - Mutual Aid General Support
    - Direct Protection
    - Federal Support and County Assist responses
    - NRCC out of area incident response
    - NWC mobilizations
    - Severity and Staffed Station responses

- **Fire Administrative Orgs**: Fire administrative orgs are used to segregate specific costs incurred by the Fire Protection Bureau and Forestry Division Office related to non-suppression activities. A sequential SABHRS org will be assigned in the `7 1` yxxx number series. The administrative activities under this role may or may not have incident information in IRWIN that will be pulled from INFORM. Examples:
  - GACC wide cost shares for IMT Staging costs
  - NRCC Expanded Support and GMAC Support
  - FDO costs incurred in FEMA Fire Management Assistance Grant administration
  - FPB General Support to the NR GACC
- **All Hazard Orgs**: All Hazard orgs are used to segregate costs related to All Hazard incidents under DES tasking, search and rescue requests and natural disaster FEMA missions. All hazard mobilizations and activities are wildland fire related. The Northern Rockies Coordination Center with approval from the Fire Protection Bureau Deputy Chief of Fire Operations, will assign orgs in the `4 0` yxxx number series. All Risk incidents will have unique IRWIN ID’s and will pull information from INFORM.

Area
The DNRC area that is handling the incident.

Unit
The DNRC unit that is handling the incident.

Business Action
A specific type of business action that can be associated with an incident. This field is required. The business actions available are:

- **Direct Protection**: Incidents where DNRC is the protecting agency.
- **Mutual Aid**: Aid provided to another protecting unit or jurisdiction where DNRC does not intend to recover expenses incurred.
- **County Assist**: A formal request to DNRC for fire suppression assistance from the Board of County Commissioners within a Cooperating County.
- **Other Agency**: Support/Assistance provided to another protecting unit or jurisdiction (in-state or out of state) where DNRC intends to recover expenses incurred.
- **Severity**: Preposition incidents established to support DNRC staffing and wildfire preparedness efforts.

Remarks
This text box should contain any general remarks to be associated with the IRWIN incident.

Submitting the Form

Once all of the required information has been entered, the submit button at the bottom of the form will become active and clickable. If there are any errors when creating the form, they will be displayed in a box above the submit button. Otherwise, the code edit dialog will open showing the information for the incident that was just created, including the financial code that was generated.

Editing Existing Financial Codes

After a financial code has been created, all fields except the code's activity role can be updated to reflect the latest changes in the fire. To do so, open the code edit dialog by clicking on the incident on the code list page, make the required changes, then press the Submit button to save. On successful save, the dialog will close; otherwise, an error message will appear detailing why the code could not be updated.

Voiding Financial Codes

If a code was created that should not be used for some reason, the code can be voided and removed from the default code list view. Once voided, the code remains in the system and can still be viewed or reactivated. Only users with the Manager or Owner application roles can void a financial code.

To void a code, open the code edit dialog for the code, type in a reason why the code has being voided, then press the Void Code button. In order to void a code, the remarks field must be updated. If there is a problem voiding the code, an error message will appear detailing why the code could not be voided.

To re-activate a code, use the Activate Code button that appears instead of the Void Code button in the dialog.

Viewing Financial Code Modification History

If a user has the Primary application role or higher, they can view if a financial code has changed over time, and what edits were made. To view the changes, click on the `Modification History` text that is at the bottom of the code edit dialog to view a summary of all of the changes made to the financial code. If a more detailed report is needed, contact the developers to get a full report.

Managing Users

The actions on this page can only be completed if a user has the Manager application role or higher. These users can approve role requests, view user information, and disable users in the system.

Approving Role Requests

To approve user role requests, navigate to the Users page using the `Users` link on the header page. Next, click the `Manage Requests` link. Here you will see a list of the pending requests with the name of the requested user, the requested role, and the reason for the request. Next to the request, there are two buttons labeled 'Approve' and 'Reject' that either approve or decline the request for the specific role request.

Viewing System Users

To view all users known to the system, navigate to the Users page using the `Users` link on the header page. Here you will see the display name, actual name, and role of each user that is registered with the application.

Changing User Permissions

It is possible to change a user's role without having them submit a role request. On the code list page, find the user whose role you want to change, and click on their name. A dialog will appear that show's the user's current role, including the permissions that they have. Selecting a different role from the dropdown will show the permissions that the user would have if they had that role. To apply the selected role, click on the save button at the bottom of the dialog. This button will only appear when a different role is selected than the user currently has.

Disabling Users in the System

Due to the change tracking functionality built into the application, it is impossible to remove users outright. Instead, they must be given the Public role, which gives them the same permissions as someone who is not logged into the app.

Number Management

The DNRC areas, DNRC units and activity roles that are available to be associated with financial codes can change on a yearly basis. Before these settings can be applied, they must be manually approved by a user with the Owner role. Once the settings for a year are approved, they are made read-only and cannot be modified.

These settings are available in the configuration page, which can be navigated to by using the `Configuration` link in the navigation header.

The page is separated into tabs, with one tab for each of the possible configurable entities. When the page is first opened, it shows the current year's configuration if it has been approved, with the option to view previous years' configurations. To actually edit or approve the next year's configuration, a link on the upper right corner of the page will lead you to the configuration page.

Configuring Activity Roles

Number Templates

Number templates are used to specify how the numbers associated with an activity role are generated. Each template is a series of placeholder characters that determine what the character in the same place of the generated numbered will be. These placeholders can be resolved to the character itself, a digit of the current year, or a digit from the activity role's counter.

Use the table below to see which characters in a template are transformed when a number is generated:

Character	Description
X	Replaced by a digit from the activity role's counter
O	Replaced by a digit from the activity role's counter if there aren't enough `X` placeholders
Y	Replaced by a digit from the code's year

Characters are replaced right-to-left starting with the counter's or year's least significant digit. Any placeholder that doesn't have a digit assigned to it will be set to `0`. For example, for the template `XXX`, with a counter value of `25`, the generated value is `025`.

Placeholders do not need to be contiguous. For example, for the template `X1X` with a counter value of `36`, the generated value will be `316`.

For the placeholders `X` and `O`, if there are too many digits in the counter to encode, no result will be produced.

For the placeholder `Y`, the year is truncated to match the number of `Y` placeholders given. For example, with the template `YY`, and the year 2021, the generated value will be `21`.

The `O` Placeholder

Unlike the `X` placeholder, the `O` placeholder doesn't directly place it's digits into the generated string. Instead, the digits are transformed into a base 27 number which is encoded using the digits `0`, `a`, `b`, `c`, `d`, ... `z`. This number is then placed into the template as usual.

For example, if the template `O` needed to encode the number `11`, it would use the character `k`, as it is the 11th letter of the alphabet. As another example, the template `OO` encodes the number 28 as `a0` and the number 30 as `ac`.

Configuring DNRC Areas and Units

Areas and units are managed using identical interfaces.

Adding Areas or Units

To add an area or unit, find the appropriate list and click on the plus icon underneath the list's title. Two input fields will appear to enter the new item's name and three letter abbreviation.

If the new item is added successfully, then the new item will be displayed at the top of the list. Otherwise, an error message will appear. Item's names and abbreviations must be unique within their group.

Disabling Areas or Units

To disable an item, find it in the appropriate list. Underneath the item's general information, there is a checkbox labeled `disable`. Toggling the checkbox will enable or disabled the area or unit for inclusion in the next year's configuration.

Configuring Preseason Admin Codes

The application can store and display static codes that aren't generated by the main code generation functionality. These codes can be entered under the Preseason Admin tab.

To add a preseason code, click on the add button and enter the code's name, category, and numeric code.

To add a new category, contact the system administrators with the following information:

- The name of the category
- Any descriptive text that should go along with it (limited to `300` characters).

The descriptions of each category must also be changed by the system administrators.