Somatic Cell Genome Editing Program Manual of Operations

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I. Consortium Overview and Governance

A. Consortium Overview

The Somatic Cell Genome Editing (SCGE) Consortium Phase 2 was established with five Technologies and Assays for Therapeutic Genome Editing INDs, five IND-enabling Studies of Somatic Genome Editing Therapeutic Leads, one Platform Clinical Trials of Genome Editors in Multiple Diseases, two IND-enabling Studies for Platform Clinical Trials of Genome Editing in Multiple Disease and a Somatic Cell Genome Editing Program Translational Coordination and Dissemination Center.

The Technologies and Assays for Therapeutic Genome Editing INDs PIs and Institutions:

- Benjamin Freedman, Ph.D. – University of Washington, Seattle, WA
- Petros Giannikopoulos, M.D.; and Umut Gurkan, Ph.D. – University of California, Berkeley, CA
- David Spencer, M.D., Ph.D.; and Eric Duncavage, M.D. – Washington University, St. Louis, MO
- Shengdar Tsai, Ph.D. – St. Jude Children's Research Hospital, Memphis TN
- Shengdar Tsai, Ph.D. – St. Jude Children's Research Hospital, Memphis TN

The IND-enabling Studies of Somatic Genome Editing Therapeutic Leads PIs and Institutions:

- Jennifer Doudna, Ph.D. – University of California, Berkeley, CA
- Cathleen Lutz, Ph.D.; Mandana Arbab, Ph.D.; Steven Gray, Ph.D.; David Liu, Ph.D.; and Ricardo Mouro Pinto, M.Sc., Ph.D. – Jackson Laboratory, Bar Harbor, ME
- William Peranteau, M.D.; and Kiran Musunuru, M.D. Ph.D., M.P.H., M.L. – Children's Hospital of Philadelphia, PA
- Krishanu Saha, Ph.D. – University of Wisconsin, Madison, WI
- Sonia Minikel Vallabh, Ph.D. – Broad Institute, Cambridge, MA

The Platform Clinical Trials of Genome Editors in Multiple Diseases PIs and Institution:

- Yong-Hui Jiang, M.D., Ph.D.; Elizabeth Berry-Kravis, M.D., Ph.D.; and Jiangbing Zhou, Ph.D. – Yale University, New Haven, CT

The IND-enabling Studies for Platform Clinical Trials of Genome Editing in Multiple Diseases PIs and Institution:

- Rebecca Ahrens-Nicklas, M.D., Ph.D.; and Kiran Musunuru, M.D. Ph.D., M.P.H., M.L. – Children's Hospital of Philadelphia, PA
- Zheng-Yi Chen, Ph.D.– Massachusetts Eye and Ear Infirmary

The Somatic Cell Genome Editing Program Translational Coordination and Dissemination Center (TCDC) PI and Institution:

- Melinda Dwinell, Ph.D.– Medical College of Wisconsin

The purpose of this cooperative research Consortium is to accelerate the translation of genome editing technology into clinical applications. The deliverables of the SCGE program will be a collection of tools, reagents, methods, data, and best practices that will accelerate development and testing of new treatments for many diseases, i.e., the SCGE Platform. The SCGE program will involve innovative and collaborative research by a partnership of genome editing therapeutic experts, targeted delivery experts, and assay developers to produce validated techniques and knowledge through exchange of expertise, information, and research tools. Awardees from all four SCGE program components of the Consortium, governed by a steering committee of investigators and NIH staff, will develop consensus policies and procedures for Consortium-wide activities such as data and resource sharing. It is expected that all awardees will collaborate to accelerate the translation of genome editing technologies into treatments for human disease.

The major funders are:
The SCGE program is funded by the NIH Common Fund, which is managed by the Office of Strategic Coordination (OSC)/Division of Program Coordination, Planning and Strategic Initiatives (DPCPSI)/Office of the Director (OD).

B. Governance

B.1. Cooperative Agreement Responsibilities

The administrative and funding instrument used for the SCGE program is the cooperative agreement, an "assistance" mechanism (rather than an "acquisition" mechanism), in which substantial NIH programmatic involvement with the awardees is anticipated during the performance of the activities. Under the cooperative agreement, the NIH purpose is to support and stimulate recipient activities by involvement in and otherwise working jointly with the award recipients in a partnership role; it is not to assume direction, prime responsibility, or a dominant role in the activities. Consistent with this concept, the dominant role and prime responsibility resides with the awardees for the project as a whole, although specific tasks and activities may be shared among the awardees and the NIH as defined below:

NIH staff have substantial programmatic involvement that is above and beyond the normal stewardship role as described below:

The NIH SCGE Working Group consists of NIH programmatic staff from multiple Institutes and Centers of the NIH as well as the Office of the Director. It reports to OSC leadership for final funding decisions. The Working Group is Co-chaired by the Director of National Institute of Neurological Disorders and Stroke (NINDS), Walter Koroshetz, Ph.D. and by the Director of the National Center for Advancing Translational Science (NCATS), Joni Rutter, Ph.D., who are responsible for overall scientific and managerial guidance to the SCGE program at the NIH level. The Working Group Coordinators, P.J. Brooks, Ph.D. and Tim LaVaute, Ph.D., provide high level management of the program on behalf of the Co-chairs, while the Common Fund

Program Leader, Matthew Arnegard, Ph.D., serves on the SCGE Working Group and provides guidance to the Working Group regarding Common Fund policies and requirements, and reports on these activities to OSC leadership. Additionally, the NIH SCGE Working Group has a dedicated group of Project Team Leaders that administer each of the program's research initiatives. The NIH SCGE Working Group will participate as members of the SCGE Program Steering Committee and will collectively have one vote.

Research Initiative(s)	Project Team Leader	Institute
Technologies and Assays for Therapeutic Genome Editing INDs (U01) projects	Betty Poon, Ph.D.	NIAID
IND-enabling Studies of Somatic Genome Editing Therapeutic Leads (U19) projects	Tim LaVaute, Ph.D.	NINDS
Platform Clinical Trials of Genome Editors in Multiple Diseases (UG3/UH3) project	P.J. Brooks, Ph.D.	NCATS
IND-enabling Studies for Platform Clinical Trials of Genome Editing in Multiple Diseases (U01) projects	P.J. Brooks, Ph.D.	NCATS
SCGE TCDC	Marah Lachowicz-Scroggins, Ph.D.	NHLBI

The NIH Project Scientist(s) will have substantial scientific and programmatic involvement during the conduct of this activity through technical assistance, advice, and coordination. However, the role of NIH staff will be to facilitate and not to direct the activities. The Project Scientist(s) will have the following substantial involvement:

- Participating with the other SCGE Program Steering Committee members in addressing issues that arise with SCGE planning, operation, assessment, and data analysis. The Project Scientist(s) will assist and facilitate the group process and not direct it.
- Serving as a liaison, helping to coordinate activities, including acting as a liaison to other NIH Institutes/Centers, and as an information resource for the awardees. The Project Scientist(s) will also help coordinate the efforts of the SCGE Consortium with other groups conducting similar efforts.
- Attending all SCGE Program Steering Committee meetings as a voting member, assisting in developing standard operating procedures, and consistent policies for dealing with situations that require coordinated action. The Project Scientist(s) will be responsible for working with the grantee as needed to manage the logistic aspects of the SCGE program.
- Reporting periodically on SCGE program progress to the NIH SCGE Working Group, and through it to the NIH Common Fund.

- Serving on working groups of the SCGE Program Steering Committee as appropriate.
- Assisting awardees in the development, if needed, of policies for dealing with situations that require coordinated action.
- Providing advice in the management and technical performance of the award.
- Assisting in promoting the availability of the data and related resources developed in the course of this program to the scientific community at large.
- Participating in data analyses, interpretations, and, where warranted, co-authorship of the publication of results of studies conducted through the program.
- Other NIH SCGE Working Group staff may assist the awardee as designated by the Program Official.

Additionally, an agency program official or IC program director will be responsible for the normal scientific and programmatic stewardship of the award and will be named in the award notice. The assigned Program Official may also serve as an NIH Working Group Project Scientist(s) to assist the awardee.

Areas of Joint Responsibility include:

Close interaction among the participating investigators will be required, as well as significant involvement from the NIH, to manage, assess, and disseminate the SCGE program. The awardees and the Project Scientist(s) will meet in person with the SCGE Program Steering Committee twice a year and on conference or Zoom calls as needed to share information on methodologies, analytical tools, and preliminary results. All members of a SCGE project are eligible to attend these meetings.

Cooperative agreement details specific to each RFA can be found at the following links:

- Technologies and Assays for Therapeutic Genome Editing INDs: RFA-RM-22-014
- IND-enabling Studies of Somatic Genome Editing Therapeutic Leads: RFA-RM-22-015
- Platform Clinical Trials of Genome Editors in Multiple Diseases: RFA-RM-22-016
- Somatic Cell Genome Editing Program Translational Coordination and Dissemination Center: RFA-RM-22-017
- IND-enabling Studies for Platform Clinical Trials of Genome Editing in Multiple Diseases: RFA-RM-24-001

B.2. Steering Committee Policies

Guideline: A Steering Committee composed of PIs from all projects and the NIH Project Scientist(s) is the decision-making body for SCGE responsible for the scientific direction of the program, and subject to oversight by the NIH SCGE Working Group as set forth in the FOAs RFA-RM-22-014-017. Awardees from all of the SCGE components form the SCGE Consortium. The Steering Committee governs the Consortium and will develop consensus policies and procedures for Consortium-wide activities.

Principles:

- The Steering Committee is responsible for policy decisions regarding the Consortium, and for the discussion and resolution of procedural issues that affect the operation and status of the network as a whole, including but not limited to the following:
    - Ensure that all projects contribute to input, design, and testing of the SCGE Platform.

    - Oversee compliance with program policies and procedures.
    - Approve significant modifications to approved protocols.
    - Make major decisions regarding publication policy, data sharing and data release to the public.
    - Approve significant modifications to approved milestones.
- The SCGE Steering Committee will be the operational group through which the NIH SCGE Working Group interacts with the SCGE Consortium.
- The Steering Committee will have monthly conference calls.
- The Steering Committee will meet in-person biannually. However, unforeseen circumstances may require these meetings to occur virtually.
- The minutes for all Steering Committee discussion will be documented and posted on SCGE TCDC Google Drive (viewable to Steering Committee members).
- The voting members of the SCGE Steering Committee include the Principal Investigator(s) of each project/center and the collective NIH. Each project has one vote (multiple PIs may all be members of the Steering Committee, but collectively have one vote for their project) and the NIH SCGE Working Group collectively has one vote. Together, there are currently 13 voting members of the SCGE Steering Committee.
- Other government staff (e.g., DARPA, FDA, NIST) may attend the Steering Committee meetings as desired.

The SCGE Program Steering Committee may establish working groups as needed to address particular issues, which will include representatives from the program and the NIH and possibly other experts. The SCGE Program Steering Committee will have the overall responsibility of assessing and prioritizing the progress of the various working groups.

The SCGE awardee agrees to work collaboratively to:

- Provide for secure, accurate and timely data submission.
- Participate in presenting and publishing new processes and substantive findings.
- Assess and disseminate the SCGE Platform.
- Participate in the governance of the SCGE program as a member of the SCGE Program Steering Committee.
- Interact with other relevant NIH activities, as needed, to promote synergy and consistency among similar projects.

STEERING COMMITTEE
Co-Chairs: Claire Clelland, M.D.; and Shengdar Tsai, Ph.D.

Voting Members:
Technologies and Assays for Therapeutic Genome Editing INDs (U01) projects (1 vote per project):

Benjamin Freedman, Ph.D. – University of Washington, Seattle, WA
Petros Giannikopoulos, M.D. – University of California, Berkley, CA
David Spencer, M.D., Ph.D. – Washington University, St. Louis, MO
Shengdar Tsai, Ph.D. – St. Jude Children's Research Hospital, Memphis TN
Shengdar Tsai, Ph.D. – St. Jude Children's Research Hospital, Memphis TN

IND-enabling Studies of Somatic Genome Editing Therapeutic Leads (U19) projects (1 vote per project):

Jennifer Doudna, Ph.D. – University of California, Berkeley, CA

Alternate: Deirdre Killebrew, Ph.D. – University of California, Berkeley, CA

Cathleen Lutz, Ph.D. – Jackson Laboratory, Bar Harbor, ME

Kiran Musunuru, M.D., Ph.D., M.P.H., M.L. – Children's Hospital of Philadelphia, PA

Krishanu Saha, Ph.D. – University of Wisconsin, Madison, WI

Sonia Minikel Vallabh, Ph.D. – Broad Institute, Cambridge, MA

Platform Clinical Trials of Genome Editors in Multiple Diseases (UG3/UH3) projects (1 vote per center):

Young-Hui Jiang, M.D., Ph.D. – Yale University, New Haven, CT

Alternate: Jiangbing Zhou, Ph.D. – Yale University, New Haven, CT

IND-enabling Studies for Platform Clinical Trials of Genome Editing in Multiple Diseases (1 vote per center):

Rebecca Ahrens-Nicklas, M.D., Ph.D. – Children's Hospital of Philadelphia, PA

Zheng-Yi Chen, Ph.D. – Massachusetts Eye and Ear Infirmary, Boston, MA

SCGE TCDC (1 vote per center):

Melinda Dwinell, Ph.D. – Medical College of Wisconsin, Milwaukee, WI

NIH SCGE WG – (1 vote total for NIH):

P.J. Brooks, Ph.D. or Tim LaVaute, Ph.D.

B.3. Election of SCGE Steering Committee Co-Chairs

Guideline: The position of Chairperson of the SCGE Steering Committee will be filled by two Co-Chairs that serve staggered overlapping terms. The first set of Co-Chairs (Claire Clelland and Shengdar Tsai) were selected by the NIH SCGE Working Group. The SCGE TCDC will request nominations for subsequent Co-Chairs from the Steering Committee. Nominations can be voiced during the Steering Committee meeting or via email to the TCDC. Self-nominations are accepted. Current Steering Committee Co-Chair(s) will contact non-self-nominated individuals to confirm interest in the position. If multiple accepted nominations are received, the Co-Chair will be selected by a vote of the SCGE Steering Committee. Electronic ballots will be distributed by the TCDC to Steering Committee voting members. The TCDC will send frequent reminders prior to the voting deadline. Non-votes will count as abstentions. At least 50% of the voting members must vote to reach a quorum.

Principles:

1. The first set of Co-Chairs will have the opportunity to continue to serve if re-elected for a period of 12 months.
2. The subsequent term of the position of Co-Chair will be 12 months in duration.
3. The individuals holding the position of Co-Chair must be a voting member of the SCGE Steering Committee.
4. The Co-Chairs must be Principal Investigators of one of the Technologies and Assays for Therapeutic Genome Editing INDs (U01), IND-enabling Studies of Somatic Genome Editing Therapeutic Leads (U19), Platform Clinical Trials of Genome Editors in Multiple Diseases (UG3/UH3), or IND-enabling Studies for Platform Clinical Trials of Genome

Editing in Multiple Diseases (U01); the Principal Investigator of the SCGE TCDC may not serve as a Co-Chair.

5. The Steering Committee Co-Chairs will be responsible for oversight of the SCGE program Steering Committee. Responsibilities of this role include, but are not limited to:
    a. Draft the agenda for the monthly Steering Committee meetings (in-person and teleconference).
    b. Oversee the SCGE Coordinating Committee (for more information see below).
    c. Assist in finalizing program governance documents developed by the SCGE Steering Committee.
    d. Keep track of key Steering Committee decisions and outcomes.

B.4. Coordinating Committee

The Coordinating Committee consists of the two Co-Chairs of the Steering Committee, the NIH Common Fund Program Leader, the NIH SCGE Working Group Coordinators, the NIH Program Team Leaders, and the PI of the SCGE TCDC The first set of initiative representatives to the Coordinating Committee include Claire Clelland (Steering Committee Co-Chair and U19 Initiative), Shengdar Tsai (Steering Committee Co-Chair and U01 Initiative), and Mindy Dwinell (TCDC) were selected by the NIH SCGE Working Group.

The Coordinating Committee supports the Steering Committee and its decision-making process by planning, priority setting, and tracking progress of the SCGE program.

Principles:

1. Assist in Steering Committee agenda development.
2. Review updates from Working Groups.
3. Provide input on global guidelines for adherence to deliverables and timelines, dissemination of data to TCDC and/or repositories.
4. Identify issues to be brought forward to the Steering Committee and NIH for further discussion.

Operations: The TCDC is responsible for scheduling meetings, distributing agendas and materials at least 2 business days before the Coordinating Committee meeting, and recording and posting minutes. Draft Coordinating Committee minutes should be ready for review within 5 business days and approved by the Coordinating Committee the following month.

Development of the Coordinating Committee agenda will be by the following process:

1. 1.5 weeks before the Coordinating Committee meeting, the TCDC will contact the Steering Committee co-chairs for agenda items and documents to be brought to the attention of the Coordinating Committee. The standard request could include a request for the documents still under development and their timelines. The Steering Committee co-chairs will have 2 business days to respond.
2. The TCDC assembles a draft Coordinating Committee agenda and shares it with the Steering Committee co-chairs and NIH members for editing at least 3 business days before the Coordinating Committee meeting.

3. After NIH input is received, the Steering Committee co-chairs should review and finalize the meeting agenda.
4. The TCDC distributes the Coordinating Committee agenda (with any documents) to the Coordinating Committee members 2 business days in advance of its meeting. Late breaking items can be added by Coordinating Committee members with Steering Committee co-chairs approval.
5. The TCDC assembles draft Coordinating Committee minutes directly after the Coordinating Committee meeting and shares it with the Coordinating Committee members.

B.5. Working Groups

Guideline: The Steering Committee may establish Working Groups as needed to address particular issues, which will include representatives from the program and NIH, and possibly other experts. The SCGE Steering Committee will have the overall responsibility of assessing and prioritizing the progress of the various Working Groups.

Principles:

- Any individual or group proposing a new SCGE Working Group will present their idea to the SCGE Steering Committee. A formal vote of the SCGE Steering Committee is needed to create a new standing Working Group. However, a formal vote is not necessary for new *ad hoc* Working Groups.
- Volunteers for Chair or Co-Chairs of the new Working Group will be solicited when the new Working Group is proposed. A formal vote of the SCGE Steering Committee is needed to confirm the Chair or Co-Chairs if multiple nominations for a single position are received.
- At least 50% of the voting members must vote to reach quorum. For electronic votes, non-votes will count as abstentions.
- Co-chairs are not required for *ad hoc* Working Groups but may be recommended by the SCGE Steering Committee.
- Working Group Co-Chairs are not prohibited from coming from the same project.
- Working Group Chairs and Co-Chairs are not required to be PIs of a SCGE project. Working Group Co-Chairs work with the TCDC to create the monthly meeting agenda. The Co-Chairs facilitate the monthly meetings, ask questions following presentations, make suggestions, and ensures participants remain on topic. They are responsible for communicating updates to Steering Committee Co-chairs.
- If there are no volunteers for Chair or Co-Chair, or only one, the SCGE Steering Committee may recommend a project or type of project that may be a good fit for the Working Group and one of the SCGE Steering Committee Co-Chairs will solicit the project(s) for a recommended chair.
- Individuals can be members of more than one Working Group.
- All Working Groups will make their meeting agendas and minutes available to other Working Groups.
- Progress reports on Working Group activities will be presented at the bi-annual meetings and made available to other Working Groups.

- Any SCGE Working Group (excluding *ad hoc* Working Groups) proposing to close will present its idea to the SCGE Steering Committee. A formal vote of the SCGE Steering Committee is needed to close a standing Working Group.

Working Groups:

Data Sharing Policy and Standardization: Kris Saha (U19) and Anne Kwitek (TCDC)

Delivery Systems: Ben Deverman (U19) and Ross Wilson (U19)

HD/HE and Ethics: Kris Saha (U19) and TBD

Regulatory: Kiran Musunuru (U19) and Fyodor Urnov (U19)

U19/UG3 Leaders: Kiran Musunuru (U19)

B.6. Implementing and Revising the SCGE Manual of Operations

- Working Groups may be tasked with development of chapters for the SCGE Manual of Operations.
- Changes to the Manual of Operations will be ratified by the SCGE Steering Committee via vote.
- Working Groups that would like to recommend: 1) a change to a ratified Manual of Operations chapter that affects network-wide operations, or 2) addition of a new chapter, should recommend the change to the SCGE Coordinating Committee for review prior to Steering Committee ratification.
- SCGE Steering Committee will have the authority to make decisions regarding implementation of ratified chapters of the Manual of Operations that are assigned to the Working Group for implementation.
- If a Working Group cannot resolve an implementation decision internally, the SCGE Steering Committee will be consulted.
- Working Groups will consult with other relevant Working Groups on implementation decisions that involve multiple areas of expertise. A cross-Working Group liaison may be assigned to facilitate these interactions.

II. Data Sharing Policy

SCGE Consortium approved policy on 3/29/24.

Preamble: In Phase I of the Somatic Cell Genome Editing (SCGE) Consortium, a toolkit was developed to facilitate data sharing within the SCGE members, as well as the research community in general. In Phase II, an SCGE platform will serve to maintain Phase I data and to expand to the data, communications, guidelines, templates, and master protocols resulting from Phase II of the SCGE. Principal Investigators (PIs) are expected to deposit data and regulatory resources from their projects using the established tier paradigm and move it forward through the tiers as efficiently as possible to accomplish broad dissemination of this information. PIs will work with their respective Program Officers (POs) if exceptions to the public release of the data are necessary. PIs are responsible for ensuring that regulatory documents are redacted according to their team's internal requirements and that no copyright issues exist with journals or publishers. The Translational Coordination and Dissemination Center (TCDC) is free to use submitted documents, data, figures and/or images within the Platform within the appropriate Tiers (see below). For pre-publications, PIs should acknowledge the SCGE Platform (https://scge.mcw.edu/platform/) as a data resource.

Purpose: The SCGE Consortium aims to promote the sharing of data, technologies and regulatory resources as broadly and expeditiously as possible, while respecting the obligations, interests, and prerogatives of consortium investigators and their institutions. The SCGE's sharing principles are consistent with the goals of the NIH Data Sharing Policy (https://grants.nih.gov/grants/policy/data_sharing/) and with the Resource Sharing Plan guidelines stated in the original SCGE funding announcements (https://commonfund.nih.gov/editing/fundingopportunities). This document describes the SCGE Consortium policy for sharing and releasing data, communications, guidelines, templates, regulatory agency interactions, and master protocols at multiple levels: within specific components of the SCGE, across the SCGE, to the broader scientific community, and to the public. SCGE sharing and release policies augment but do not replace general NIH policies that concern data, technology and resource access and sharing. These policies also augment but do not supersede sharing requirements described in the Terms and Conditions of SCGE awards.

To facilitate sharing, SCGE investigators will deposit data, descriptions of the methods used to generate the data, operating procedures, and FDA regulatory communications and regulatory documentation/resources into the SCGE Platform, which will be established, secured, and maintained by the SCGE TCDC. Protected or proprietary information can be redacted by the PI as needed. The PI will have the flexibility to submit both unredacted and redacted versions for release at selected tiers (see below). It is anticipated that SCGE investigators will also deposit resources, data, and information into public databases and repositories as required by the individual data-sharing plans or as agreed upon by the SCGE Consortium. Guidelines and requirements for deposition into the SCGE Platform will be determined by the SCGE Consortium. The specific schedule for data/resource deposition will be established by the NIH PO for each award in consultation with the PIs. The TCDC will provide the means for assigning data and resources to particular Tiers, and release/promote information according to established plans. This SCGE sharing policy distinguishes four sharing and release tiers. For the purposes of this policy, "individual SCGE-funded teams" refers to personnel supported by a single SCGE award, as specified by that team's PI(s).

- **Tier 0** concerns preprocessing and quality control of regulatory documents and resources, data, technology and other materials between the submitter from an individual SCGE-funded team and the TCDC.
- **Tier 1** concerns regulatory documents and resources, data, technology and other materials sharing between members of individual SCGE-funded teams, as well as NIH program officers and the technical and data teams at the TCDC.
- **Tier 2** concerns sharing between a SCGE-funded team and other SCGE components beyond the TCDC.
- **Tier 3** concerns internal release across the entire SCGE Phase II consortium.
- **Tier 4** concerns external release to the broader scientific community and the public.

A. General Considerations

The SCGE acknowledges that investigators and their research institutions could have intellectual property (IP)-related obligations and interests that result from SCGE-funded research, and that SCGE policy should be consistent with such obligations and interests. It is the responsibility of investigators and their institutions to manage their own IP protection. Furthermore, given that data, technology, and resource sharing may be necessary or desirable in advance of IP filing (e.g., to meet testing-related program milestones), SCGE investigators have the ability and (if needed) the responsibility to establish Confidentiality Disclosure Agreements (CDAs) and Material Transfer Agreements (MTAs) with others in the consortium who are the recipients of proprietary data, technology, and resources. The SCGE provides CDA and MTA examples and templates to program personnel as shared documents, but the final executed content of any such agreements is the responsibility of the specific parties involved. Members of the SCGE Consortium must notify the TCDC when executed CDAs have been established with other SCGE components. Moreover, if IP protection is needed before releasing data, the investigators have the freedom to redact protected information as needed at any tier. In general, if the terms of a CDA are inconsistent with data sharing that would otherwise align with SCGE Consortium policies or priorities, the parties to the CDA will work with their respective POs to identify an equitable solution.

A.1. Types of Data to be Submitted

Required:

- Data and documents associated with milestones. Sequence and patient-specific data associated with milestones of specific programs will be addressed on a program-by-program basis.
- Data from publications supported and enabled by the SCGE Program.
- Oral presentations or posters presented at SCGE meetings.
- Interactions with regulatory agencies (e.g., FDA; includes meeting requests, communications to and from FDA, meeting packages)

Encouraged:

- Relevant data in SCGE-supported publications but not funded by the SCGE.
- Preliminary data that leads to the development of the final product but not published.
- Negative results not planned for publication.
- Detailed protocols for generating and/or analyzing data relevant to SCGE projects.
- Information pertaining to procurement/manufacture of gene editing reagents

Summary Table:

Data Type	Required?	Entry Tier
Milestone Associated	Yes	1
Published, SCGE Funded	Yes	4
Negative Results	No	1
Preliminary/Development Work	No	1
Published, Not SCGE Funded	No	4
Non-data Information		
Presentation at SCGE Meetings	Yes	3
Detailed Protocols Associated with Milestones	No	1
Interactions with regulatory agencies (e.g., FDA)	Yes	1

A.2. Data, Resource and Technology Tiers

Tier 0. When resources and data are first deposited into the SCGE Platform, they will be designated Tier 0, and access will be limited to the TCDC and those SCGE personnel who are members of the depositor's individual SCGE-funded team.

Purposes of Tier 0 sharing. Tier 0 access will (*i*) allow the TCDC to process and stage materials submitted by members of individual SCGE-funded teams; and (*ii*) enable materials to be reviewed and verified by the individual SCGE-funded submitter for further sharing in the appropriate tier.

Tier 1. After materials are verified in Tier 0, they will be designated Tier 1, and access will be limited to the TCDC, to those SCGE personnel who are members of the depositor's individual SCGE-funded team, and to the PO associated with that team's SCGE award. Escalation to Tier 1 should be done as early as possible, according to the individual project's scientific timeline and the PO-established specific schedule for data/resource deposition.

Purposes of Tier 1 sharing. Tier 1 access will (*i*) allow data, technology and resources to be shared among members of individual SCGE-funded teams, their PO, and the TCDC; and (*ii*) enable data to be subjected to quality control and confirmation in preparation for further sharing.

Tier 2. Tier 2 data, technologies and resources will be shared between specific consortium components beyond the individual SCGE-funded teams, that team's PO, and the TCDC. SCGE components and personnel with access to Tier 2 data will be specified by the data's owners within individual SCGE-funded teams, using SCGE Platform tools and interfaces provided by the TCDC. There is no specific requirement that <u>all</u> Tier 1 data be advanced to Tier 2+. The shared materials may be redacted as needed prior to progression to Tier 2. Progression of deposited data, technology and resources from Tier 1 to Tier 2 should be done as early as possible, and according to the individual project's scientific timeline and the needs of other SCGE components.

Purposes of Tier 2 sharing. The SCGE aims to maximize collaboration and sharing across the consortium, and Tier 2 access can be used to enable sharing in a manner that individual SCGE-funded teams can manage and control. Additional sharing can also be implemented beyond these specific examples, at the discretion of the data's owners.

After initially advancing regulatory documents and resources, data, technology and other materials from Tier 1 to Tier 2, investigators can expand access to additional SCGE groups as needed while still keeping the shared material at Tier 2.

Tier 3. Data, communications, guidelines, templates, and master protocols that have been advanced from Tier 2 to Tier 3 are available to all participants in the SCGE Consortium with Platform access, for the benefit of the consortium's members and the program's research mission. The shared materials may be redacted as needed prior to progression to Tier 3. Progression from Tier 2 to Tier 3 will use SCGE Platform tools and interfaces provided by the TCDC. There is no specific requirement that all Tier 2 materials be advanced to Tier 3. Progression of deposited materials from Tier 2 to Tier 3 should be done as early as possible, according to the individual project's scientific timeline, forthcoming SCGE Consortium policies and the potential value of the shared materials to the SCGE Consortium.

Purposes of Tier 3 sharing. The SCGE Program aims to maximize collaboration and sharing across the consortium, and Tier 3 access can be used to enable such consortium-wide sharing.

Tier 4. Data, communications, guidelines, templates, and master protocols that have been advanced from Tier 3 to Tier 4 are available to the scientific community and to the public. It is expected that shareable materials presented publicly (e.g., in public presentations, preprint deposition into *BioRxiv*, and publication) will be made broadly available via Tier 4 sharing. There is no specific requirement that all Tier 3 data be advanced to Tier 4. Progression of deposited materials from Tier 3 to Tier 4 should be done as early as possible, consistent with the timelines for scientific milestones and forthcoming SCGE Consortium policies.

Purposes of Tier 4 sharing. The SCGE aims to advance SCGE technologies and resources for the benefit of the research community and the general public. Tier 4 access enables such sharing.

The SCGE Toolkit URL is https://scge.mcw.edu/platform/.

III. Project Management

This section includes policies and procedures to meet program milestones and coordinate collaboration.

A. Program milestones

The SCGE TCDC monitors major program milestones, especially as they relate to the completion of key elements to be included in the SCGE Platform. Milestones vary by SCGE Initiative but include the development and testing of reporter animal models, *in vitro* and *in vivo* validation of delivery and gene editing techniques, proof-of-concept that cell/tissue platforms can identify biological consequences of genome editing, the development of new or optimized editors, and the sharing of verified reagents. Metrics and milestones were established by the funding agency. These metrics are not modifiable except through negotiation with the funding agency.

IV. Data Validation

A. Validation

This Validation component of the Manual of Operations provides preliminary protocols and operating guidelines that will define an initial framework for common approaches to validation protocol development and data collection and serve as a basis for further refinement by SCGE investigators.

B. Data Standards

B.1. Background

The success of the SCGE depends on the collection and subsequent sharing of well-described genome editing data. In order for the SCGE data to be comparable and maximally useful, information about biodistribution and editing efficiency must be captured in a uniform way. To assist in depositing data to the SCGE Platform in a uniform manner while capturing established data standards, a metadata form has been developed and distributed to projects prior to data submission. Well-established standards that have already been adopted by the genome editing community will be adopted by the SCGE and will be described in the first part of this section; those described are well-established standards for other relevant data types generated by the SCGE Consortium. The second part of the section describes the standard processes and data that are needed in order to track project progress through the SCGE.

B.2. Data Standards

Ontologies and standardized vocabularies will be used by the SCGE Platform when available. These include ontologies such as Gene Ontology, Cell Ontology, and UBERON. Uniform identifiers for model organisms, genes, genomes, public repository, resource, RRID, and others will be applied as appropriate. Unique SCGE IDs will be assigned to objects included in data submissions for both objects with uniform identifiers and data objects not currently under discussion for standard format identifiers.

V. Publications

SCGE Consortium approved policy on 4/26/24.

One parameter of SCGE success will be the number and quality of its publications and presentations. The SCGE Translational Coordination and Dissemination Center (TCDC) will oversee the activities set out herein on behalf of the SCGE Steering Committee, and report to it. Changes to the policy described herein must be approved by the SCGE Steering Committee. The publication policy applies to publications for which the work supporting that publication is the product of NIH SCGE funding.

A.1. Scope

A. To provide timely input to the SCGE TCDC of all SCGE consortium presentations, abstracts, preprints (if applicable), and publications, including consortium, collaborative, and individual project publications.
B. The SCGE TCDC is responsible for tracking of activities and materials, including manuscript submissions of consortium and collaborative manuscripts, acceptance of all NIH SCGE-funded publications, and SCGE presentations.

A.2. SCGE Manuscript Types

A. Consortium – represent major, cross-project publications (e.g., marker/white paper, SCGE data trends analysis).
B. Collaborative – represent cross-project publications involving a small number of SCGE projects (e.g., experimental protocol development, new methods, research outcomes, review/commentary articles). Policies below describing manuscript proposals and their pre-submission review by the consortium (e.g., see section A.3.1 below) *do not* apply to this category.
C. Individual project– represent publications of new methods, protocols, research outcomes, or reviews/commentaries driven by a single project. Policies below describing manuscript proposals and their pre-submission review by the consortium (e.g., see section A.3.1. below) *do not* apply to this category; publications or research results from individual projects/centers will be at the discretion of the PIs, as is generally the case for NIH-funded research.

A.3. SCGE Manuscript Guidelines (Consortium, Collaborative and Individual project)

A. It is encouraged although not mandated that manuscripts be shared with the public via an appropriate public preprint server (e.g., *bioRxiv*, *arXiv*, *ChemRxiv*) prior to or concurrent with the time of submission to a journal. Authors are requested to notify the TCDC of any SCGE bioRxiv postings so that such manuscripts can be included in the SCGE *bioRxiv* channel.
B. All SCGE manuscripts should acknowledge the SCGE Consortium. The Acknowledgements should include a statement such as “This work was supported by the

National Institutes of Health (NIH) Common Fund Program, Somatic Cell Genome Editing, through an award administered by the [Institute, Center or Office name] [(Institute, Center or Office abbreviation)] [(grant number)]; PIs: [PI names])." Manuscripts acknowledging SCGE funding should be a direct outcome of the supported work.

C. If there is an NIH co-author, the NIH co-author must seek appropriate NIH approval.
D. It is expected that the TCDC will be informed of all SCGE manuscript acceptances and provide the expected publication date.

A.3.1 SCGE Consortium Manuscript Guidelines (e.g., Marker Paper):

The SCGE Consortium, led by the Steering Committee, will develop a manuscript (or multiple manuscripts) that will describe, define and introduce the SCGE Consortium, or components of the Consortium, to the medical and scientific community.

1. Authors (First, Middle and Senior) will be determined by common agreement based upon the type, scope and site(s) of the project. The first author(s) will take primary responsibility for the manuscript. Given the nature of the SCGE Consortium's collaborative work, shared first or last authors should be considered as an option.
2. The SCGE Consortium will be acknowledged at the end of the author list, as "Members of SCGE".
3. Generally, it is expected that authors would make contributions to any or all of the following, including but not limited to the conception, design, acquisition and analysis of data, drafting of the manuscript, and editing and revision of the manuscript.
4. The TCDC will take a role in resolving all authorship disagreements for SCGE Consortium manuscripts on behalf of the SCGE Steering Committee and report to the Steering Committee any resolution or recommendations for resolution.

A.4. Abstracts and Presentations:

A. Abstract submissions for consortium-wide activities require submission to the TCDC for review and presentation to the SCGE Coordinating and Steering Committees for review. Abstract submissions for Collaborative projects are encouraged to submit the abstract to the TCDC for review and reporting to the SCGE Steering Committee prior to submission. Abstracts prepared by an Individual project will not require review by the TCDC.
B. All authors on abstracts and presentations must be made aware and confirm their authorship prior to submission or presentation.
C. Abstracts and presentations should mention SCGE NIH SCGE Common Fund support as well as the appropriate SCGE grant number(s).
D. To assist the SCGE TCDC in tracking SCGE Consortium member presentations, information (presenter, project PI(s), title, conference, location, date) for all invited and oral/poster presentations submitted to conferences should be submitted to the TCDC, scge@mcw.edu
E. If there is an NIH co-author, the NIH co-author must seek the appropriate NIH approval.

VI. Outreach

SCGE Consortium approved policy on 4/26/24.

Overview: The Somatic Cell Genome Editing (SCGE) Consortium Outreach Policy is the foundation in which the SCGE will build all outreach initiatives to create and maintain a unified public-facing web and social media presence to inform interested members of the public and scientific community about the SCGE and gene editing research. Outreach initiatives consists of original material developed by the SCGE consortium to explain (a) concepts in somatic cell genome editing, including its promise for treating rare and common diseases, (b) research conducted by SCGE Investigators, (c) key challenges in the field, (d) the objectives of the consortium, (e) promote services, and (f) recommend reagents based on SCGE consortium data. Outreach initiatives will also highlight updates on gene editing research done by SCGE PIs that is outside of their SCGE research, but similar work. The SCGE Translational Coordination and Dissemination Center (TCDC) does not speak on behalf of NIH.

The TCDC will not endorse explanatory information on somatic cell genome editing generated outside of the SCGE consortium but retains the right to follow and repost appropriate pages commenting when appropriate. Additionally, the SCGE TCDC will not take stands on scientific or ethical controversies by advocating for a specific policy but may comment for informational and educational purposes on advances within the gene editing field, including highlighting commentaries by SCGE Principal Investigators or affiliated NIH leadership with appropriate disclaimers. SCGE consortium outreach efforts will not include the moderation of any online or offline debates on gene editing. The main platforms through which the SCGE TCDC will disseminate information is a public-facing **website** along with **X** (formerly Twitter), and **LinkedIn** accounts.

A. Website and Social Media

A.1. Outreach Content on Website

The SCGE Consortium will have a public-facing website, which will be created and maintained by the SCGE TCDC, with directional input from the SCGE Steering Committee. Content that may be included, but is not limited to, are success stories, descriptions of the project sites, an annual summary of SCGE progress, publications, portals to the SCGE Toolkit and Platform, and additional information for researchers (e.g., promote services, provide recommendations).

All members of the SCGE Consortium are invited to submit content suggestions for the website. Outreach-focused content for the website will be screened by members of the SCGE TCDC prior to being posted or linked to.

The SCGE website will not contain commentaries on gene editing, unless authored by consortium members with appropriate disclaimers. This website may link to the lab websites of SCGE-funded investigators and news articles highlighting SCGE-funded work.

A.2. Outreach Content on X and LinkedIn

The SCGE TCDC will cultivate a social media presence - with - X and LinkedIn accounts and may expand to other social media platforms. The -biography (X) and about (LinkedIn) must at all times state (a) the grant's source of funding, (b) the account is run by the SCGE TCDC, and (c) reposts are not endorsements. The biography/about can be changed at any time provided the content in (a), (b), and (c) remains the same.

The profile picture will be a version of the most current SCGE logo and cannot be a picture of a specific individual or group of individuals. In accordance with NIH policy, the handle for the X account is @SomaticEditing, and does not contain the letters "NIH." All photos used to display as the cover or profile picture must be affiliated with the SCGE consortium, either owned by the SCGE or contain the SCGE logo. Photos can be changed at any time as long as they follow the listed guidelines.

These X and LinkedIn accounts will be accessible by one TCDC staff member. The tone of voice used to post from this account will be an institutional tone and special care is to be taken to ensure that the account does not read as a personal tone. Active voice should be avoided, if possible, along with the utilization of personal pronouns to refer to the SCGE.

A.3. Posting Content on X and LinkedIn

These X and LinkedIn accounts will feature similar content as the website and will link out to the website when appropriate. Outreach information on somatic cell gene editing generated by the members of the TCDC should be linked out by using these accounts. Achievements made by SCGE PIs, and SCGE research updates will be highlighted by the account in addition to relevant gene editing-related work outside of the SCGE that may be interesting and educational to members of the public and scientific community. The account will also highlight SCGE PI participation in providing their input on research and ethics surrounding gene editing topics at conferences, interviews, and the like. The account may repost with or without comment any posts directly mentioning or referencing the SCGE and SCGE-funded research posted by NIH institutes, NIH employees affiliated with the SCGE, SCGE-funded investigators, SCGE-funded trainees, and SCGE-affiliated institutions. The account may repost with or without comment any posts highlighting relevant gene editing research not directly related to the SCGE, but related to SCGE-like research, including research done by SCGE PIs outside of the SCGE, but related work. The account may not repost any posts not directly mentioning or referencing the SCGE, and posts not related to genome editing. The same guidelines apply for liking content on X and LinkedIn.

A.4. Following on X and LinkedIn

These X and LinkedIn accounts will follow accounts relevant to the SCGE, including, but not limited to, SCGE-funded investigators, other somatic cell genome editing researchers relevant to NIH, HD/HE, National Science Foundation (NSF), and Department of Energy (DoE) initiatives, institutes or companies related to gene editing, SCGE-funded trainees, journals, journal editors, and advocacy organizations.

VII. Ethical Legal and Social Implications

The TCDC team includes members with expertise in ethical, legal, and social implications (ELSI). These members serve as a resource within the Consortium for potential issues related to somatic cell genome editing. These members will lead discussions as emerging challenges arise, especially related to somatic cell genome editing therapies. As needed, the TCDC ELSI experts will provide workshops or tutorials for SCGE Consortium members as needed.