INCLUSION PLANS IN NASA'S SCIENCE MISSION DIRECTORATE. Amanda L. Nahm[1,2] and Ryan N. Watkins[1,2], [1]NASA Headquarters, Science Mission Directorate (SMD), 300 E St SW, Washington, DC, 20546, amanda.l.nahm@nasa.gov and ryan.n.watkins@nasa.gov; [2]Arctic Slope Regional Corporation Federal, Beltsville, MD 20705.

Introduction and Background: Inclusion, defined by NASA as the full participation, belonging, and contribution of organizations and individuals, is a core NASA value. As such, the Astrophysics Division (APD) was the first SMD division to require Inclusion Plans (IPs) for their Astrophysics Theory Program (ATP) in ROSES-2021. This effort was led by Evan Scannapieco, the Chair of the Astrophysics Division R&A Inclusion, Diversity, Equity, and Accessibility (IDEA) Task Force at the time. The main goal of the Inclusion Plan Pilot Program was to determine if SMD could assess whether R&A proposals would further NASA's inclusion goals [1]. The review panels and proposers voiced their support for the continued and expanded use of IPs and for establishing standards that should be met by all SMD-supports R&A investigations [1].

The pilot program was expanded when the second Payloads and Research Investigations on the Surface of the Moon (PRISM 2) program, run by the Exploration Science Strategy Integration Office (ESSIO), added the requirement of Inclusion Plans, also in ROSES-2021. More programs began adding the requirement of IPs, increasing the total number of programs across multiple divisions that required IPs to 12 in ROSES-2022, as well as the Solar System Exploration Research Virtual Institute (SSERVI) Cooperative Agreement Notice (CAN).

*ATP Language and Lessons Learned***:** In ATP, the IPs were no more than 2 pages in length and included two requirements: a plan for creating and sustaining a positive and inclusive working environment for the proposal team and a description of the contributions the proposed investigation would make to the training and development of a diverse and inclusive scientific workforce. The evaluation criteria were intentionally written to be general to avoid a "check-the-box" response that could be parroted back to NASA [1].

The ATP reviewers identified five important ways in which the solicitation language could be improved [1]. These recommendations were considered when modifying the language for the PRISM 2 solicitation.

PRISM 2 Lessons Learned: Based on feedback from the ATP pilot program, a few changes were made to the PRISM 2 IP language. In addition to what was required in the ATP IP language, PRISM proposers were required to identify barriers to creating a positive and inclusive working environment that were specific to the proposing team, address ways in which the team would work against those barriers and provide metrics of success for the proposed IP activities. The PRISM 2 text provided a few examples of systemic barriers and ways to work against them as examples, but these examples were not intended to be the (only) barriers and activities proposers had to address. Additionally, the PRISM 2 IP text explicitly allowed for proposal funds to be used for IP activities and clarified that IPs are separate from public engagement activities.

Reviewers of the PRISM 2 Inclusion Plans provided several suggestions for changes to the language of the solicitation, how IPs are reviewed, and the structure of the IPs. They recommended that the page limit be increased from 2 to at least 3, a space for references be provided, a budget specific to the plan and its activities be present, and letters of support from organizations aiding in IP activities be included as a complete package separable from the main body of the proposal. Some of these recommendations have been incorporated into the text for ROSES-2023 programs.

Community of Practice: Originally, the language for the IP requirements was up to each program, based on language crafted from ATP, edited for PRISM 2 based on the ATP IP review process, and finalized by the SMD Inclusion, Diversity, Equity, and Accessibility (IDEA) R&A group.

In the early part of 2022, an Inclusion Plan Community of Practice (CoP) was established by the Deputy Associate Administrator for Research (DAAR; Dr. Michael New) and his team with the goal of centralizing the goals and processes related to IPs. This included drafting standardized language for all ROSES programs that require IPs and the development of standard evaluation criteria and review processes, an approach previously used to develop other changes to research and analysis program review processes. These standard practices will be in place for ROSES-2023.

Members of the CoP include representatives from each division within SMD, as well as those from ESSIO, the DAAR's team, social scientists from the Logistics Management Institute at NASA HQ, and other interested groups, such as the Office of the Chief Scientist.

Requirements: The final, full standard language for IPs will be published in the Summary of Solicitation in ROSES-2023, but the requirements are summarized below.

- Proposals must clearly state goals for creating and sustaining a positive and inclusive working environment and describe activities to achieve these goals.

- Barriers must be specific to the proposing team and not generic to the broader STEM community.
- Assessment of the success of the proposed IP activities is required.
- Page length is dependent on individual programs but must not exceed 3 pages.

In addition to the above requirements, proposers are encouraged to:

- Leverage institutional resources, if available.
- Request time or funded work effort for team members to carry out proposed IP activities.
- Hire IDEA experts as consultants to e.g., advise the team on the proposed IP activities.
- Cite references to appropriate literature in a references section separate from that of the S/T/M section.
- Request funds to support IP activities, such as training for the proposal team

Evaluation of Inclusion Plans: During the initial pilot of IPs in ATP, the IPs were reviewed by both the science subject matter panelists and a separate panel consisting of IDEA experts. The results from both panels were compared and published by [2], which indicated that the panels consisting of IDEA experts provided more detailed evaluations of proposal strengths and weaknesses than review provided by the science panels. In particular, IDEA panels were more concerned with the concrete details of the plans, the effects of the proposed activities, and the benefits of the activities for the junior researchers they were designed to serve when compared to the assessments by the science panels [1]. Based on this assessment, PRISM IPs were reviewed only by a separate panel of IDEA experts and community members knowledgeable and experienced with issues surrounding IDEA. IPs for programs in ROSES-2023 and beyond will be reviewed by IDEA experts and scientific subject matter experts on the same panel.

Evaluation criteria: Panelists will evaluate IPs based on the extent to which:

- Awareness of systemic barriers to creating an inclusive environment specific to the proposing team is demonstrated,
- The IP provides appropriate processes and goals for creating and sustaining an inclusive environment, and
- The IP includes reasonable and appropriate assessments for measuring success of the proposed IP activities.

Note that, while Inclusion Plans are evaluated and scored, IP scores are not part of the overall adjectival rating of the proposal and therefore have no effect on proposal selectability. However, should a proposal with an unsatisfactory IP be recommended for funding, the proposers will be required to submit a revised IP to NASA before formal selection and release of funding.

Resources for Writing Inclusion Plans: One of the consistent requests from the community has been for NASA to provide resources for proposers to help them write competent and responsive Inclusion Plans. On November 1 and 2, 2022, NASA held the Inclusion Plan Best Practices workshop, during which several NASA representatives and experts in issues surrounding IDEA spoke about various aspects of inclusion. The recordings and presentations from this workshop, along with other resources collated by the CoP, have been published on the Inclusion Plan Resources webpage (https://science.nasa.gov/researchers/inclusion). These resources are intended to provide proposers for whom inclusion activities are new. They will also be useful for those that would like to learn more about how to write Inclusion Plans that address the SMD-wide requirements summarized above.

This IP Resources page is a work in progress. If there are resources that you would like the CoP to either create or identify, please email the authors to request such resources. Future workshops will be held periodically and will be crafted to address the needs of the community as they relate to writing and executing IPs.

Common Issues with Inclusion Plans: Based on reviews of IPs from several programs to date, SMD has noted common issues with IPs that do not address the requirements outlined in this abstract or that can be counter to inclusive practices. Such issues include tokenizing so called "diverse" team members, confusing inclusion with team building, and confusing diversity numbers with inclusion (see the resources page for more information on the difference between diversity and inclusion). Another common issue is seen in proposals that leverage institutional resources, where the proposal lacks discussion on how these resources apply to the proposed IP activities and instead only mention they exist at a team member's institution.

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References: [1] Scannapieco, E. The Astrophysics Division Inclusion Plan Pilot Program, https://science.nasa.gov/science-pink/s3fs-public/atoms/files/Inclusion_Plan_White_Paper_draft_for_posting_07-Feb-2022_TAGGED.pdf; [2] Sacco, T. & Norman, D. Report on the Review of ATP Inclusion Plans by DEI Expert and Science Expert Panels. Bulletin of the AAS. Mar 03, 2022. DOI: 10.3847/25c2cfeb.19262acc. https://baas.aas.org/pub/2022i028/release/1