The National Institutes of Health | Division of Technical Resources | Office of Research Facilities

Design Requirements Manual **News to Use**

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The formulae $\frac{\partial \rho U_i}{\partial t}+\frac{\partial}{\partial x_j}(\rho U_j U_i)=-\frac{\partial P}{\partial x_i}+\frac{\partial}{\partial x_j}\left(\mu\frac{\partial U_i}{\partial x_j}\right)+g_i(\rho-\rho_0)$ *for building* $\frac{\partial}{\partial x_j}(\rho\overline{U_j U_i})=-\frac{\partial \bar{P}}{\partial x_i}+\frac{\partial}{\partial x_j}\left(\mu\frac{\partial \overline{U_i}}{\partial x_j}-\rho\overline{u_i' u_j'}\right)+g_i(\rho-\rho_0)$ *state of the art* $\frac{\partial}{\partial x_i}(\rho\overline{U_i}\overline{H})=\frac{\partial}{\partial x_i}\left(\lambda\frac{\partial \overline{T}}{\partial x_i}-\rho\overline{u_i' h'}\right)$ *biomedical research facilities.*

Request for Variance

The overarching goals of the DRM are to ensure that NIH facilities are safe, efficient and in compliance with the Biosafety in Microbiological and Biomedical Laboratories (BMBL) and other applicable codes and standards. Although the DRM is a comprehensive document, it is recognized that there are methods of achieving these goals that differ from those prescribed, and which may be more appropriate for a particular situation. For this reason DRM Section 1.5.1, Variance Request Procedures, is provided.

Request for Variance form

DRM provisions are not intended to prohibit the use of alternative systems, methods, or devices that are not specifically outlined, provided that the proposed alternative is equivalent or superior with regards to value and performance.

Appendix K: DRM Variance Form

DIVISION OF TECHNICAL RESOURCES (DTR)
NIH DESIGN REQUIREMENTS PROJECT SPECIFIC
REQUEST FOR VARIANCE

Drawing Reference:
Detail Number:
Spec. Section Reference:
Paragraph # in Guidelines:
Campus ☐ On ☐ Off

To: Variance Review (301) 451-4954
Email: ORFDTRAmbulCenter@mail.nih.gov Phone
From:
Project Officer Email
A/E Name Phone Date
Work Request Number Proposed Variance Subject
☐ Yes ☐ No Type
New Construction e.g. lab, animal, office, HSL?

(Variances should be requested during pre-design or early in the design phase.)

Project Title
Building Number Estimated Construction Cost
Location Project Percent Completed %
Describe Variance. State specifically how it deviates from the guidelines, how it improves the existing condition and the advantage to implementing. Provide hard copy supporting documents as necessary to variance coordinator:

Provide recommendation of discipline or disciplines to review variance; i.e. mechanical, electrical, architect, civil, structural, fire protection or other:

PLEASE DO NOT FILL IN BELOW THIS LINE.

DTR Routing:

DTR Response:

☐ APPROVED ☐ NOT APPROVED ☐ REVISE & RESUBMIT

NIH Design Requirements Manual 1163

(Figure 1)

During the course of programming and design development the Architect / Engineer (A/E) should reference the DRM and identify all issues which may require variances. Variances may be necessary to accommodate existing building constraints or site conditions, required technology, or the standards of a building or institution. Cost, user preference and 'the way it was done before' are generally not bases for variances. DRM Appendix K (Figure 1) is the Request for Variance form, which requires the following information:

- Project identification, including Work Request number and the names and contact information for the Project Officer (PO) and A/E.
- Project title, building number and location, project percent complete.
- Variance description. This should state the proposed deviation, justification for the deviation and a demonstration of equivalency. Provide the advantage to implementing the proposed variance, and the rationale for exemption from the requirement.

In order for a variance to be properly assessed, the Request for Variance and supporting documentation should provide the reviewers with a complete understanding of the function and layout of the spaces and systems in question. The function is often conveyed with a narrative including pertinent facts regarding operation, use and special conditions. For a renovation the layout is often conveyed with demolition and new work plans. Supporting technical data may consist of cut sheets, specifications, manufacturer's instructions, calculations, etc. Not providing sufficient data for the variance review may result in a delay.

Variance Process

Completed forms shall be submitted by the A/E through the PO. All requested variances within a single discipline shall be submitted as a single package (i.e. all mechanical in one package). This ensures that all related variations are reviewed at one time to preclude conflicts in guidance.

The Request for Variance forms that meet the prescribed criteria will be reviewed by applicable NIH review offices. If the submittal is incomplete, or requires resubmission, additional time may be required for the review. Submissions are based on specific conditions, locations and circumstanced, and future variance approvals are at the A/E's risk. ***A variance submission request does not guarantee variance acceptance. Acceptance of a variance does not relieve A/E of any responsibilities as a design professional.***

Following the submittal of a complete package by the PO, 10 working days should be scheduled for a review. Additional time may be necessary depending on the complexity of the request, coordination with other requests, or resubmission due to incomplete documentation. This timeframe shall be considered when developing the overall project development schedule.

All known variances shall be submitted before the completion of the design development stage (35%) for a project. In some cases, the need for a variance may be the result of work done after the design development stage. Only in these cases will late variances be considered.

If a variance is granted the Request for Variance form and back-up material should be included in the project documentation.

Additional Considerations

DRM Section 1.2.1 lists codes and standards that must be used in conjunction with the DRM. The Request for Variance form is used for variances from DRM requirements only.

NIH cannot grant waivers or variances from federally-mandated sustainability or energy efficiency standards or requirements.

NIH cannot grant waivers for accessibility compliance. All requests must be submitted to the U.S. Access Board.

'Design Requirements Manual (DRM) News to Use' is a monthly ORF publication featuring salient technical information that should be applied to the design of NIH biomedical research laboratories and animal facilities. NIH Project Officers, A/E's and other consultants to the NIH, who develop intramural, extramural and American Recovery and Reinvestment Act (ARRA) projects will benefit from 'News to Use'. **Please address questions or comments to:** shawm@nih.gov

Further details on this month's topic are available on the DRM website DRM Section 1.5.1, Variance Request Procedures
https://www.orf.od.nih.gov/PoliciesAndGuidelines/BiomedicalandAnimalResearchFacilitiesDesignPoliciesandGuidelines/Pages/DesignRequirementsManual2016