

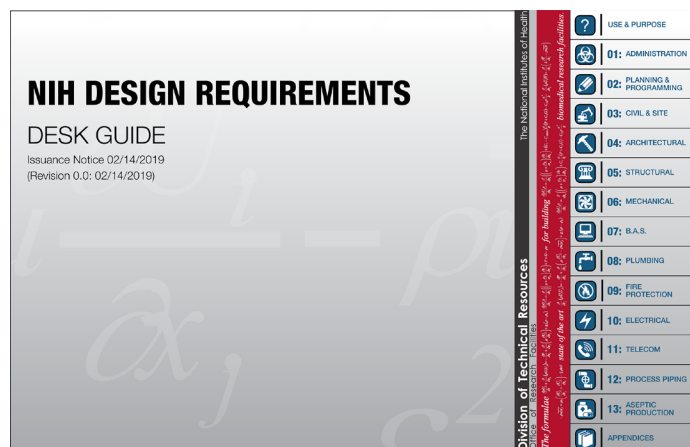
The formulae $\frac{\partial \rho U_i}{\partial t} + \frac{\partial}{\partial x_j} (\rho U_j U_i) = -\frac{\partial p}{\partial x_i} + \frac{\partial}{\partial x_j} \left(\mu \frac{\partial U_i}{\partial x_j} \right) + g_i (\rho - \rho_0)$ for building $\frac{\partial}{\partial x_j} (\rho U_j \bar{U}_i)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

The Design Requirements Desk Guide

Laboratory design is a complex undertaking, which necessitates that the DRM be a complex document. Navigating the 1,000+ pages of the DRM, including its exhibits and appendices, can be challenging; because of this, the Design Requirements Desk Guide has been developed as a resource.

<https://www.orf.od.nih.gov/PoliciesAndGuidelines/Documents/DRM/DRMDeskGuide.pdf>

The DRM establishes policy, design requirements, standards, and technical criteria for use in planning, programming, renovating, and designing all NIH occupied and funded buildings. It also provides objective and performance-based criteria for a wide range of systems, materials, assemblies, and equipment which impact the safe and efficient operation and maintenance of NIH facilities.



The Design Requirements Desk Guide

The DRM and the Desk Guide

During the course of a facilities project, the designers, Project Officers, reviewers, and other stakeholders must determine whether the DRM addresses a particular point or issue. If it does, they must navigate to the appropriate chapter, section, and subsection to find it. The electronic

copy of the DRM has numerous built-in navigational tools for ease of use: **most importantly, the document is easily searchable with the CTRL+F command**, meaning users can quickly find key words or phrases instead of combing through a whole section for a relevant line. The electronic DRM also contains links throughout the text to easily access sections from the table of contents or other sections that reference them, and it has bookmarks to each chapter and appendix. The Desk Guide is a quick reference to be used in conjunction with these existing tools; it can also serve to facilitate learning of DRM content and the content's location within the manual.

Use of the Desk Guide

The Desk Guide has 13 chapters and a section on appendices, which replicates the DRM's organizational structure. It is also searchable and linked in a similar fashion to the DRM, with a menu directly linked to chapters located on the right border of every sheet, and chapters have sections and subsections which list which criteria is contained therein. It is important to note that the Desk Guide does not provide the criteria itself, only an overview of criteria, therefore the Desk Guide must be used in conjunction with the DRM rather than as a substitute for it. Once the user has determined the location of the appropriate content in the Desk Guide, they must then use the DRM to find the corresponding criteria for practical use.

Although it can be printed, the Desk Guide is best used digitally, and is therefore available for download. This way, users will be able to utilize the numerous hyperlinks to specific DRM criteria. Like the DRM, the Desk guide will be updated as needed, and users should reference the most currently available version or the version applicable to a particular project.

As always, any questions, comments, or suggestions about the DRM or the Desk Guide can be submitted to the Division of Technical Resources through email to Shawm@nih.gov.

'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: NIH Design Requirements Desk Guide

<https://www.orf.od.nih.gov/PoliciesAndGuidelines/Pages/DesignRequirementsManual2016.aspx>