



Substation power generation system

The basic things about substations you MUST know in the middle Substation Equipment Transformers Circuit Breakers Disconnecting Switches Substation Bus Surge Arresters Insulators and Conductors Protective Relays Fuses Substation Location All power transmission lines must be isolated to avoid safety hazards. Large strings of insulators are used at substations and at other points along the power distribution system to isolate the current carrying conductors from their steel supports or any other ground mounted equipment. Insulators may be made of porcelain, rubber or a thermoplastic See more on electrical-engineering-portal

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#b_results .b_vidAns{border-radius:6px;box-shadow:0 0 0 1px rgba(0,0,0,.05);padding:16px 20px;gap:10px;background:#fff}@charset "UTF-8";#b_results .b_ans.b_vidAns{box-shadow:none!important;padding:var(--smtc-gap-between-content-medium) 0!important;background:var(--bing-smtc-background-ctrl-fade-on-image-stop-0)}#b_results .b_ans.b_vidAns #serpvidans.vsacf .mc_vtvc,#b_results .b_ans.b_vidAns #serpvidans.vsacf .mc_vtvc_th,#b_results .b_ans.b_vidAns #serpvidans.vsacf .cico,#b_results .b_ans.b_vidAns #serpvidans.vsacf .mc_vtvc_htb,#b_results .b_ans.b_vidAns #serpvidans.vsacf .vrhc,#b_results .b_ans.b_vidAns #serpvidans.vsacf .vrhcp,#b_results .b_ans.b_vidAns #serpvidans.vsacf .vrhtc,#b_results .b_ans.b_vidAns #serpvidans.vsacf .vrhtpc{border-radius:var(--mai-smtc-corner-list-card-nested-default)}#b_results .b_ans.b_vidAns #serpvidans.vsacf .mmlist .mc_vtvc,#b_results .b_ans.b_vidAns #serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta{margin:0}#b_results .b_ans.b_vidAns #serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_channel,#b_results .b_ans.b_vidAns #serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_row_channel{color:var(--smtc-foreground-content-neutral-primary)}#serpvidans.vsacf,#serpvidans.vsacf .expctn .expbody,#serpvidans.vsacf .mmlist {display:flex;flex-direction:column;gap:var(--smtc-gap-between-content-medium)}#serpvidans.vsacf .cico{height:auto}#serpvidans.vsacf .mc_vtvc_ban_lo{top:0;right:auto}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta{height:auto;padding:var(--smtc-gap-between-content-xx-small) 0 var(--smtc-gap-between-content-xx-small) var(--smtc-gap-between-content-medium);display:flex;flex-direction:column;justify-content:space-between}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_title,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_title{color:var(--smtc-ctrl-link-foreground-brand-rest);font:var(--bing-smtc-text-global-body2);height:auto;display:-webkit-box;-webkit-line-clamp:2;-webkit-box-orient:vertical}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block{display:flex;flex-direction:column;gap:var(--smtc-padding-ctrl-text-side)}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area .mc_vtvc_meta_row,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block
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.mc_vtvc_meta_row,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block_area .mc_vtvc_meta_row,#serpvidans.vsacf .mmlist .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block .mc_vtvc_meta_row{color:var(--smtc-foreground-content-n
eutral-primary);height:var(--mai-smtc-padding-card-default);font:var(--bing-smtc-text-global-
caption1)}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area
.mc_vtvc_meta_row .mc_vtvc_meta_row_channel::before,#serpvidans.vsacf .mc_cwvc .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block .mc_vtvc_meta_row
.mc_vtvc_meta_row_channel::before,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block_area .mc_vtvc_meta_row
.mc_vtvc_meta_row_channel::before,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block .mc_vtvc_meta_row .mc_vtvc_meta_row_channel::before{content:" .
"}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area
.mc_vtvc_meta_pubdate,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block .mc_vtvc_meta_pubdate,#serpvidans.vsacf .mmlist .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block_area .mc_vtvc_meta_pubdate,#serpvidans.vsacf .mmlist
.mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block .mc_vtvc_meta_pubdate{color:var(--bing-smtc-
foreground-content-neutral-tertiary);padding-bottom:0}.vsacf .mc_cwvc .mc_vtvc_con_rc,.vsacf
.mmlist .mc_vtvc_con_rc{display:flex}.vsacf .mc_cwvc .mc_vtvc_con_rc
.mc_vtvc_meta_w,.vsacf .mmlist .mc_vtvc_con_rc .mc_vtvc_meta_w{height:auto}.vsacf
.b_title{padding-left:var(--mai-smtc-padding-card-default)}.vsacf .b_title .mmtitle{font:var(--bing-
smtc-text-global-subtitle1-strong);margin-bottom:0}.vsacf .b_title .mmtitle
a::after{content:"";margin:5px 5px 0 0;border-top:2px solid var(--smtc-foreground-content-neutral-
primary);border-right:2px solid var(--smtc-foreground-content-neutral-primary);background-
size:7px 7px;width:7px;height:7px;transform:rotate(45deg);display:inline-block;margin-
left:4px}#serpvidans.vsacf .b_title .mmtitle{margin-bottom:0}#serpvidans.vsacf .b_title .mmtitle
a{color:var(--smtc-foreground-content-neutral-primary)}#serpvidans.vsacf .cardless.mmlist
.mc_vtvc_con_rc,#serpvidans.vsacf .cardless.mmlist .mc_vtvc_th{height:auto}#serpvidans.vsacf
.vsb_tr_c.va_tt{margin:0}#serpvidans.vsacf .vtbc .mv_vtvc_play,#serpvidans.vsacf .vtbc
.mv_vtvc_play_ext{position:static}#serpvidans.vsacf .va_tt
.mc_vtvc_ban_lo{display:block}#serpvidans.vsacf .mc_bc{width:auto;border-radius:var(--smtc-
ctrl-badge-sm-corner);padding:var(--smtc-padding-ctrl-text-side) var(--smtc-gap-between-content-
xx-small)}#serpvidans.vsacf .rmts .mc_bc ems{display:none}#serpvidans.vsacf
a.vsb_tr_t{color:var(--smtc-foreground-content-neutral-primary)}.vsacf .va_tt .vsb_tr_chd
.mc_vtvc_th_dock.rmoverlay{height:36px}.vsacf .va_tt .vsb_tr_chd .mc_vtvc_th_dock{height:92
px;background:linear-gradient(180deg,var(--bing-smtc-background-ctrl-fade-on-image-stop-0)
0%,var(--mai-smtc-background-ctrl-on-image-rest) 100%)}.vsacf .va_tt a.vsb_tr_t{padding:0
var(--mai-smtc-padding-card-default);font:var(--acf-font-title-2-strong)}.vsacf .va_tt .vsb_tr_chd
.mc_vtvc .mc_vtvc_meta,.vsacf .va_tt .vsb_tr_chd .mc_vtvc .mc_vtvc_title{color:var(--mai-smtc-
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foreground-ctrl-on-image-rest)}.vsacf span.vcmt_ctt{font:var(--bing-smtc-text-global-
caption2);margin:var(--smtc-gap-between-content-xx-small) 0 0;height:16px}#serpvidans.vsaf
.vsb_tr_chd .mc_vtvc_tot .mc_vtvc_title strong{font-size:14px;line-
height:20px;display:unset}#serpvidans.vsaf .va_tt .b_sldrp .slide:not(:first-child){margin-
left:var(--smtc-gap-between-content-small)}#serpvidans.vsaf .va_tt .vsb_tr_chd .mc_vtvc .mc_vt
vc_title{white-space:normal;display:-webkit-box;-webkit-line-clamp:2;-webkit-box-
orient:vertical}#serpvidans.vsaf .b_module_expansion_control .b_btnContainer .b_CompactExpa
nsion{background-color:var(--bing-smtc-background-ctrl-neutral-rest);display:flex;justify-
content:center;align-items:center;gap:4px;width:fit-content;height:auto;padding:8px
12px}#serpvidans.vsaf .b_module_expansion_control .b_btnContainer .b_CompactExpansion .b_
CompactExpansionBtnText{font:var(--bing-smtc-text-global-caption1-strong);color:var(--bing-
smtc-foreground-content-brand-rest)}#serpvidans.vsaf .b_module_expansion_control
.b_btnContainer .b_CompactExpansion
.b_arrow{display:flex;margin:0;height:auto}#serpvidans.vsaf .b_module_expansion_control
.b_btnContainer .b_CompactExpansion .b_arrow path#Shape{fill:var(--bing-smtc-foreground-
content-brand-rest)}#serpvidans.vsaf .b_module_expansion_control .b_btnContainer::after{conte
nt:"";position:absolute;width:100%;bottom:20px;left:0;height:1px;border-
radius:1px;background:var(--smtc-stroke-ctrl-on-neutral-rest)}#b_results .b_ans.b_vidAns{box-
shadow:none;padding:12px 20px 0}#b_results .b_ans.b_vidAns
.vsa{padding:unset;margin:0}#b_results .b_ans.b_vidAns .vsa .b_attribution{padding-
bottom:0}#b_results .b_ans.b_vidAns .cardless .salink{margin:0}#b_results .b_ans.b_vidAns
.mmlist .mc_vtvc{margin-top:10px}#b_results .b_ans.b_vidAns .mmlist .mc_vtvc
.mc_vtvc_meta{display:flex;flex-direction:column;justify-content:space-between;margin:0 10px
4px 12px}#b_results .b_ans.b_vidAns .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_channel{color:#111}#b_results .b_ans.b_vidAns .mmlist .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_row_channel,#b_results .b_ans.b_vidAns .mmlist .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block_area{color:#666}#b_results .b_ans.b_vidAns .mmlist
.mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area{bottom:0;height:unset}.b_dark .vsa.cardless
.mc_vtvc{background-color:unset}.mmtitle>a{display:block}.mc_fh{height:100%;border-
radius:6px}.mc_tc_bs{overflow:hidden}.mmlist .mc_vtvc .mc_vtvc_meta { padding: 12px 16px
16px 16px; } .mmlist .mc_vtvc .mc_vtvc_meta_w { height: 112px; margin-top: -0px; } .mmlist
.mc_vtvc .mc_vtvc_title { height: 44px; line-height: 22px; margin-bottom: 0px; margin-top: 0px; }
.mmlist .mc_vtvc .mc_vtvc_meta_block_area { height: 40px; } .mmlist .mc_vtvc .vtmu, .mmlist
.mc_vtvc .vtpl { bottom: 120px; } .mmlist .mc_vtvc_th_dock { height: 112px; } .mmlist
.mc_vtvc_th .cico { height: 131px; } .mc_vtvc{background-color:#fff;box-shadow:0 0 0 1px rgba(
0,0,0,.05);line-height:0;margin:0;position:relative;border-radius:6px;overflow:hidden}.mc_vtvc.no
shadow{box-shadow:none}.mc_vtvc_con_rc{border-radius:6px;overflow:hidden;position:relative
}.mc_vtvc>a{color:#71777d;display:block;text-
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decoration:none;width:100% }.mc_vtvc>a:focus::after{outline:2px solid #00a89d;width:100%;height:100%;content:";outline-offset:-2px;position:absolute;top:0;left:0}.mc_vtvc_th{background-color:#d5d5d5;position:relative}.mc_vtvc_th .cico{border-radius:0}.mc_vtvc_ban_lo,.mc_vtvc_ban_up{position:absolute;vertical-align:middle}.mc_vtvc_ban_lo{bottom:0}.mc_vtvc_ban_up{top:0}.mc_vtvc_title{font-weight:normal;margin-bottom:11px;overflow:hidden;color:#111;height:54px;line-height:18px}.mc_vtvc_title a{display:inline-block;color:#111}.mc_vtvc_title a:hover{text-decoration:underline}.mc_vtvc_src_ico{float:left;margin-right:4px}.mc_vtvc_act{height:16px;margin-top:-40px;padding:12px 8px;z-index:1}.mc_vtvc_actc{right:16px;bottom:16px;position:absolute;display:inline-block;z-index:1}.mc_vtvc_act_sep{border-top:1px solid #d5d5d5;height:40px;margin:0 8px}.mc_vtvc_fh .mc_vtvc_act_sep,.mc_vtvc_fh .mc_vtvc_act{visibility:hidden}#serpvidans .b_topTitle{margin-bottom:8px}.mc_vtvc_htc{width:100%;height:100%;position:absolute;top:0;bottom:0;left:0;right:0}.mc_vtvc_htb{width:100%;height:100%;background:rgba(0,0,0,.7);position:absolute;top:0;bottom:0;left:0;right:0}.mc_vtvc_ht{width:100%;padding:0 16px;line-height:16px;color:#fff;text-decoration:underline;word-break:break-word;box-sizing:border-box;vertical-align:middle;text-align:center}.mc_vtvc_th_live_b{background-color:#c80000;color:#fff;display:inline-block;padding:2px 8px;font:11px/14px Arial;border-radius:2px;text-transform:uppercase;height:15px;width:26px;position:absolute;left:8px;top:110px}.isvctrl .isv .mc_vtvc_ban_up{left:0;right:initial}.mc_vtvc_ban_lo,.mc_vtvc_ban_up{right:0}.vt_text.b_IRight .b_ILeft{margin:0 0 0 1px;height:14px;line-height:14px;padding:2px 8px;background:rgba(0,0,0,.75);border-radius:2px;font-weight:bold}.mc_vthtb{width:100%;height:100%;background:rgba(0,0,0,.7);position:absolute;top:0;bottom:0;left:0;right:0;display:table}.mc_vtht{width:100%;padding:0 16px;line-height:16px;color:#fff;text-decoration:underline;word-break:break-word;box-sizing:border-box;vertical-align:middle;text-align:center;display:table-cell}.vt_text.b_IRight .b_ILeft{margin:0 0 0 1px;height:14px;line-height:14px;padding:2px 8px;background:rgba(0,0,0,.75);border-radius:2px;font-weight:bold}.emptyStyleForDebuggingPurpose{top:0}.emptyStyleForDebuggingPurpose{top:0}.mc_vtvc_center_play{width:32px;height:32px;background-size:contain;position:absolute;margin:auto;bottom:0;top:0;left:0;right:0;box-shadow:none;border-radius:0}.mc_vtvc_center_play.rmvbg{width:32px;height:32px;background-image:none}.mc_vtvc_htb,.mc_vtvc_ht{display:none}.vt_onhv .mc_vtvc_htb{display:table}.vt_onhv .mc_vtvc_ht{display:table-cell}.mc_vtvc_center_play{display:inline-block}.vt_onhv .mc_vtvc_center_play{display:none}.mc_vtvc .vtmu,.mc_vtvc .vtpl{bottom:163px}.vsarf .mc_vtvc .vtmu,.vsarf .mc_vtvc .vtpl{bottom:122px}.svarh #mmcar .mc_vtvc .vtmu,.svarh #mmcar .mc_vtvc .vtpl{bottom:137px}.svarht #mmcar .mc_vtvc .vtmu,.svarht #mmcar .mc_vtvc .vtpl{top:8px;left:8px}.mc_vtvc_center_play{background-image:url(data:image/svg+xml,%3Csvg%20width%3D%22%20height%3D%22%20viewBox%3D%220%200%22%20fill%3D%22none%22%20xmlns%3D%22http%3A%2F%2F.w3.org%2F2000%2Fsvg%22%3E%0D%0A%20
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%20%20%20%3Crect%20width%3D%%22%20height%3D%%22%20rx%3D%%22%20fill%3D%
%22black%22%20fill-opacity%3D%220.6%22%20F%3E%0D%0A%20%20%20%20%3Cpath%2
0d%3D%22M14.%1923C13.%209.62986%%.%%.4997V20.5C12%.%.%.%.8073L22.%3073
C23%.%.%.%.6926L14.%1923Z%22%20fill%3D%22white%22%20fill-
opacity%3D%220.9%22%20F%3E%0D%0A%3C%20Fsvg%3E)}.mmlist .mc_vtvc{margin:10px
1px 0}.mmlist .mc_vtvc_con_rc{display:flex}.cardless .mmlist
.mc_vtvc_con_rc{height:112px}.mmlist .mc_vtvc .mc_vtvc_meta{display:flex;flex-
direction:column;justify-content:space-between;margin:0 10px 4px 12px;padding:0}.mmlist .mc_
vtvc_title{font-weight:400;font-size:16px;height:44px;line-height:22px;margin-bottom:0;margin-
top:0;color:unset}.mmlist .mc_vtvc_meta_row{font-size:13px}.mmlist .mc_vtvc
.mc_vtvc_meta_block_area{height:unset}.mmlist .mc_vtvc .vtmu,.mmlist .mc_vtvc
.vtpl{bottom:8px}.cardless .mmlist .mc_vtvc{box-shadow:none}.cardless.mmlist
.mc_vtvc_center_play{width:32px;height:32px}.cardless.mmlist .mc_vtvc_title{font-
size:16px;color:unset}.cardless.mmlist .mc_vtvc_meta_row{line-height:20px}.cardless.mmlist
.mc_vtvc_meta_pubdate{padding-bottom:2px;color:#666}.cardless.mmlist
.mc_vtvc_th,.cardless.mmlist .mc_vtvc_th .cico,.cardless.mmlist .mc_vtvc_th div.rms_img{border-
radius:6px}.cardless.mmlist .mc_vtvc_th{height:111px}.cardless.mmlist .mc_vtvc_htc{border-
radius:6px;overflow:hidden}#serpvidans.vasac.cardless{box-shadow:none}.cardless.mmlist
.mc_bc{padding:2px 8px;line-height:14px;border-radius:2px;font-weight:normal}.mc_vtvc:hover
.mc_vtvc_title{text-decoration:underline}.mc_vtvc_meta{box-sizing:border-box;display:inline-bl
ock;line-height:18px;position:relative;width:100%}.mc_vtvc_meta_block{bottom:0;position:absol
ute;width:100%}.mc_vtvc_meta_row{line-height:16px;font-size:11px;height:17px;overflow:hidde
n;text-overflow:ellipsis;white-space:nowrap}.mc_vtvc_meta_row a{display:inline-
block}.mc_vtvc_meta_row a:hover{text-decoration:underline}.mc_vtvc_meta_block_area{positio
n:relative}.mc_vtvc_meta_block,.mc_vtvc_meta_block a{color:#444}.b_dark
.mc_vtvc_meta_block{color:#edebe9}.mc_vtvc_meta_row>.nth-of-type(n+2)::before{content:"
"}.mc_vtvc_meta_row .mc_vtvc_meta_row_channel::before{content:">"}.mc_vtvc_kmt_title{lin
e-height:18px;padding-bottom:4px;font-weight:bold;color:#00809d;text-transform:uppercase;font-
size:11px}.mc_vtvc_kmt,.mc_vtvc_con_rc.onhov .wkmt
.mc_vtvc_meta_row,.mc_vtvc_con_rc.onhov .wkmt .tbc_tt{display:none}.mc_vtvc_con_rc.onhov
.wkmt .mc_vtvc_title{max-height:18px;margin-
bottom:18px;overflow:hidden}.mc_vtvc_con_rc.onhov.mmsts
.mc_vtvc_title{visibility:hidden}.mc_vtvc_con_rc.onhov
.mc_vtvc_kmt{display:block}.mc_vtvc_kmt_content .b_factrow{line-height:17px;font-
size:11px,max-height:34px;overflow:hidden;text-overflow:ellipsis;padding:0 16px 0
0;color:#444}.mc_vtvc_meta .mc_vtvc_kmt_title{line-height:18px}.mc_vtvc_title:hover{text-dec
oration:none}.mc_vtvc_meta_pubdate{color:#444;padding-bottom:3px}.mc_vtvc_meta_channel{
color:#444}.mc_vtvc_meta_w,.mc_vplvc_meta_w{position:relative}.mc_vtvc_meta_bg_w,.mc_v
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plvc_meta_bg_w{height:100%;width:100%;overflow:hidden;position:absolute;top:0}.mc_vtvc_m
eta_bg_w      .cico,.mc_vplvc_meta_bg_w      .cico{border-radius:0;overflow:visible}.dg_u
.mm_vidch_th_c{overflow:visible}.dg_u      .mm_vidch_th_bg      img{margin-
top:-20px}.emptyStyleForDebuggingPurpose{top:0}.mc_vtvc_meta_w
.mc_vtvc_meta{background:rgba(255,255,255,.75)}.mc_vtvc_meta_bg_w
img,.mc_vtvc_meta_bg_w  .mc_vtvc_cb_w{filter:blur(25px);transform:scale(1.2)}body{--video-
metadata-channel-color:#3c3c3c}body.b_dark{--video-metadata-channel-color:unset}.vsarf
.mc_vtvc_meta_pubdate{color:unset}.vsarf  .mc_vtvc_meta_channel{color:var(--video-metadata-
channel-color)}.vsarf  .mc_vtvc  .mc_vtvc_meta_w  .mc_vtvc_title,.vsarf  .mc_vtvc
.mc_vtvc_meta_w  .mc_vtvc_title  strong{font-weight:bold}.vsarf  .mc_vtvc_meta_w
.mc_vtvc_meta_row{font-size:13px}.emptyStyleForDebuggingPurpose{top:0}.vsarf .mc_vtvc_th
.cico{height:132px}.emptyStyleForDebuggingPurpose{top:0}.emptyStyleForDebuggingPurpose{t
op:0}.emptyStyleForDebuggingPurpose{top:0}.emptyStyleForDebuggingPurpose{top:0}.emptySt
yleForDebuggingPurpose{top:0}.emptyStyleForDebuggingPurpose{top:0}.emptyStyleForDebugg
ingPurpose{top:0}.vtbc      .mv_vtvc_play{display:inline-
block;position:absolute;bottom:8px;left:9px;height:8px;width:7px}.vtbc
.mv_vtvc_play_ext{background:url(/rp/Lp38sn_O4jegSK0IHxZVxyp-yKQ.png)      -172px
-31px;display:inline-block;height:8px;width:12px;position:absolute;bottom:8px;left:6px}.vtbc
.pivot{height:20px;width:8px;min-width:8px}.vtbc .mv_vtvc_play{background:url(
X//////////9/gMdvAAACnRSTIMAETNEVWaImbvuo4D1oAAAAB9JRE
FUCB1jmMoABKuaQcSqQhCxKgFGgLnNQIkpQAWA8zkLyQAI6F0AAAAASUVORK5CYII=
)}.mc_bc_w{height:18px;padding:8px;text-align:right}.mc_bc{background-
color:rgba(0,0,0,.75);padding:2px 8px;line-height:14px;color:#fff;display:inline-block;vertical-
align:middle;border-radius:2px;font-weight:bold}.mc_bc_w  .pivot{text-align:center;margin-
right:1px;height:14px}.vsarr .mmgrid .mc_bc_w .mc_bc{background-color:rgba(0,0,0,.75);opacit
y:1}.mmsi{height:16px;width:16px;position:relative;top:5px;padding-right:var(--smtc-gap-betwee
n-content-xx-small)}.vrhdata{display:none}.mmgrid>div{width:197px;display:inline-
block;margin-right:8px;margin-bottom:8px;box-shadow:0 0 0 1px rgba(0,0,0,.05);position:relative
;vertical-align:top;overflow:hidden;white-space:normal;border-radius:6px}.vsarr
.mmgrid>div,.vsarr1stbig      .mmgrid>div{margin-right:8px;margin-bottom:8px}#serpvidansrr
.mc_vtvc .mc_vtvc_meta{height:auto}#serpvidansrr .mc_vtvc .mc_vtvc_title{display:-webkit-
box;-webkit-line-clamp:2;-webkit-box-orient:vertical}.mmgrid      .mc_tc{border:0}.vsa
.mmgrid>div:nth-child(3n){margin-right:0}.vsa      .b_moreLink{padding-top:4px}#serpvidansrr
.mc_vtvc_meta_row{line-height:18px;font-size:100%;height:17px}.vsarr      .mmgrid>div:nth-
child(2n){margin-right:0}#serpvidansrr      .mc_vtvc      .vtmu,#serpvidansrr      .mc_vtvc
.vtpl{bottom:128px}.vsarr1stbig .mmgrid>div:nth-child(2){margin-right:0}#serpvidansrr.uipolish
.mc_vtvc_meta_pubdate,#serpvidansrr.uipolish      .mc_vtvc_meta_channel,#serpvidansrr.uipolish

```



Substation power generation system

```
#vidans2 .b_videocard .video_metadata .video_source{color:#767676}#serpvidansrr #vidans2
.b_videocard .video_metadata_container,#serpvidansrr #vidans2 .b_videocard
.video_metadata_container .video_metadata>h3{width:100%}@media(max-
width:.9px){#serpvidansrr .mmgrid>div{width:168px;height:206px}#serpvidansrr .mmgrid>div
.cico,#serpvidansrr .mmgrid>div .cico .rms_img{width:168px;height:100px}#serpvidansrr
.mc_vtvc .mc_vtvc_meta{padding:12px}#serpvidansrr .mc_vtvc .mc_vtvc_title{height:32px;line-
height:16px;margin-bottom:16px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta_block_area{height:34px}#serpvidansrr.mc_vtvc_meta_row{line-height:15px;font-
size:13px,height:15px}#serpvidansrr .mc_vtvc_meta_pubdate{padding-bottom:4px}#serpvidansrr
.mc_vtvc .vtmu,#serpvidansrr .mc_vtvc .vtpl{bottom:114px}#serpvidansrr #vidans2 .b_videocard
.videoPlayer,#serpvidansrr #vidans2 .b_videocard .videoPlayer .cico,#serpvidansrr #vidans2
.b_videocard .videoPlayer .cico .rms_img{width:343px!important;height:194px!important;margin-
right:0} @media(max-width:.9px){#serpvidansrr
.mmgrid>div{width:124px;height:164px}#serpvidansrr .mmgrid>div .cico,#serpvidansrr
.mmgrid>div .cico .rms_img{width:124px;height:76px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta{padding:8px}#serpvidansrr .mc_vtvc .mc_vtvc_title{height:32px;line-
height:16px;margin-bottom:12px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta_block_area{height:28px}#serpvidansrr.mc_vtvc_meta_row{line-height:13px;font-
size:11px,height:13px}#serpvidansrr .mc_vtvc_meta_pubdate{padding-bottom:2px}#serpvidansrr
.mc_vtvc .vtmu,#serpvidansrr .mc_vtvc .vtpl{bottom:96px}#serpvidansrr #vidans2 .b_videocard
.videoPlayer,#serpvidansrr #vidans2 .b_videocard .videoPlayer .cico,#serpvidansrr #vidans2
.b_videocard .videoPlayer .cico .rms_img{width:256px!important;height:144px!important;margin-
right:0}#serpvidansrr .maskthumb .mc_bc_w{padding:8px 4px 4px
8px}#serpvidansrr.withsplitline .mmgrid>div:nth-last-child(1),#serpvidansrr.withsplitline
.mmgrid>div:nth-last-child(2){margin-bottom:24px}#serpvidansrr.withsplitline .mmgrid{border-
bottom:1px solid #ecec; margin-bottom:16px}#serpvidansrr #vidans2 .b_videocard
.video_metadata{max-width:auto;padding:12px 16px}#serpvidansrr #vidans2
.b_videocard{margin-bottom:12px;box-shadow:0 0 1px rgba(0,0,0,.05),0 2px 3px
rgba(0,0,0,.1);border-radius:6px}#serpvidansrr .b_rich{padding-top:0}#serpvidansrr #vidans2
.videoPlayer{border-radius:6px 6px 0 0;overflow:hidden}#serpvidansrr #vidans2 .b_videocard .vi
deo_metadata>h3{white-space:nowrap;overflow:hidden;text-overflow:ellipsis;-webkit-line-clamp:
1;line-height:15px;height:15px;font-size:13px;color:#000;margin-bottom:20px;font-
family:"Arial",Helvetica,Sans-Serif;font-style:normal;display:block}#serpvidansrr.vsarr1stbig
#vidans2 .b_videocard .video_metadata .actionmenu{display:none}#serpvidansrr #vidans2
.b_videocard .video_summary,#serpvidansrr #vidans2 .b_videocard .video_source{line-
height:15px}#serpvidansrr #vidans2 .b_videocard .videoPlayer .vtbc{right:0}.vrhc line.nhvpv
.pffvi,.vrhc line.nhvpv[data-tps="M"] .pffvt,.vrhc line.nhvpv[data-tps="L"] .pffvt{display:inline-
flex}.vrhc line.nhvpv .vrhc.pffv .vrhc.pffv .vrhc.pffv .vrhc.pffv .player_ol{back
```



Substation power generation system

```
ground:var(--mai-smtc-background-ctrl-on-image-hover);transition:background-color .5s;display:flex;align-items:center;justify-content:center;padding:var(--smtc-gap-between-content-x-small);gap:var(--smtc-gap-between-content-x-small);box-sizing:border-box}.mc_vtvc_th img{transition:all .3s ease-out}.nhvpv+.mc_vtvc_th img{transform:scale(1.1)}.smtplayerhtml5{height:100%;width:100%;overflow:hidden}.smtplayerhtml5 video{min-height:100%;min-width:100%}.smtplayerhtml5 .videoplaying{background-color:#000}.smtplayerhtml5.hide{display:none}.pffvt{display:none;color:var(--mai-smtc-foreground-ctrl-on-image-rest);font:var(--bing-smtc-text-global-subtitle2-strong)}.pffvi{mask:url(/rp/ui07wU6K7FR_inzG7DRbP1i8fGo.svg) center no-repeat;mask-size:12px;background:var(--bing-smtc-background-card-on-image-default);width:20px;height:20px;flex-shrink:0;align-self:flex-start}[data-tps="L"] .pffvt{font:var(--bing-smtc-text-global-subtitle2-strong)}[data-tps="L"] .pffvi{width:22px;height:22px;mask-size:16px}[data-tps="S"] .pffvt{font-size:0}[data-tps="S"] .pffvi{width:24px;height:24px;mask-size:24px;align-self:center}.hvpv.h5s .pffvt{display:inline-flex}.hvpv.h5s .vrhtc.pffv .vrhol{display:none}.hvpv.h5s .vrhtc.pffv .player_ol{background:var(--mai-smtc-background-ctrl-on-image-hover);transition:background-color .5s;display:flex;align-items:center;justify-content:center;padding:var(--smtc-gap-between-content-x-small);gap:var(--smtc-gap-between-content-x-small);box-sizing:border-box}.pffvt{text-decoration:underline}.vrhcp .vrhol{position:absolute;width:100%;height:35px;max-height:35px;bottom:0;left:0;padding:0;background:none;display:block;z-index:9}.vrhcp .vrhol.hide,.vrhcp .vrhol .hide{display:none}.vrhot{white-space:nowrap;text-overflow:ellipsis;overflow:hidden;display:inline-block;position:absolute;max-width:240px;height:18px;line-height:14px;margin-left:8px;top:10px;left:0;right:0;border-radius:2px;padding-right:8px}.vrhot div{display:inline-block}.vrhot .nt{color:#fff;font-size:11px;font-weight:bold;background-color:rgba(0,0,0,.75);padding:2px 8px;margin-left:0;top:0;box-sizing:border-box;position:relative}.vrhc .ricons{position:absolute;right:8px;top:10px;left:auto;bottom:auto;height:18px;display:inline-block;cursor:pointer}.vrhol.icons_1 .vrhot{margin-right:27px}.vrhol.icons_2 .vrhot{margin-right:49px}.vrhol.icons_3 .vrhot{margin-right:79px}.vrhol .vrhot .nt,.vsb_tr_chd .vrhol.icons_1 .vrhot{margin-right:0}.vpb{position:absolute;display:block;bottom:0;left:0;height:4px}.vpb div{position:absolute}.vpb .nt{width:0;background:#fff}.vpb .nt.test{display:none}.vpb.back{background-color:#999}.vrhcp .vrhol.npb{height:36px;max-height:36px}.vrhol .vadda{width:22px;height:18px;padding:0;margin-right:0;margin-left:2px;bottom:0;position:relative;display:inline-block;z-index:1;background:rgba(0,0,0,.75);border-radius:2px;overflow:hidden}.vrhol .vadda.hide{display:none}.vrhol .vadda .mc_vfaa{margin:3px 5px}.ricons .vol{float:left}.ricons .adultFlag{float:right}.vol{width:22px;height:18px;bottom:0;margin-left:1px;margin-right:1px;position:relative;display:inline-block}.vol.hide,.vol .hide{display:none}.vol .bg{background:rgba(0,0,0,.75);border-radius:2px}.vol.bg,.vol .nt{position:absolute;bottom:0}.vol .vol.bg.volnb{border-radius:0 0 2px 2px}.vol
```



Substation power generation system

```
.volsliderHandle.bg{border-radius:2px 2px 0 0}.vol nt .volsliderHandle{height:70px;display:none;
width:22px;float:left;bottom:18px;position:absolute;display:block}.vol nt
.volsliderHandle.hide{display:none}.volsliderHandle .vsb{height:54px;width:4px;background-
color:#999;margin:9px auto 8px;position:relative;display:block;border-
radius:2px}.volsliderHandle .vsh{height:6px;width:14px;padding:9px 7px 9px 7px;margin:0
-12px;display:block;position:absolute;top:30px}.volsliderHandle
.vsh.hide{display:none}.volsliderHandle .vshi{height:4px;width:14px;background-
color:#fff;border-radius:2px}.volMuteIcon{width:16px;height:14px;margin:2px 4px;float:left}.vol
MuteHandle{width:22px;height:18px}.vo{background:url(/rp/fFZxBXEIP9WYOO0jhTaElyLhE
VU.svg) no-repeat}.vm{background:url(/rp/fsX-ZVd03wB2TL0vmQJxSp4U9vs.svg) no-
repeat}.vl{background:url(/rp/YXYMPC1Rry_XJGc7Yg8lR4B2eEs.svg) no-
repeat}.vf{background:url(/rp/NosrlR4amKTs1zYxWy3laZN3HRk.svg) no-
repeat}@media(forced-colors:active){.vol{forced-color-adjust:none}.vrhc
.vt_vp,.vrhc.popout .vt_vp,.vrhc.mousefollow
.vt_vp{position:absolute;bottom:0;border:hidden;padding:0;top:0;left:0;z-index:3}.vrhc
.hide{display:none}.vrh_clc .vt_vp,.vrh_clc .vrhc .vrhi,.vrh_clc
.player_ol{cursor:pointer}.vrh_clc .cico{border-
radius:0}.vrhc{border:hidden;top:0;left:0;padding:0}.vrhc.mousefollow .vrhc,.vrhc.popout
.vrhc{background-color:#999}.vrhtpc.load
.player_ol{background:url(/rp/J_o2maogFDeUOsovPjL-ofEuxJ4.gif) center center no-
repeat}.vrhc line .vrhc .vrhi,.vrhc.popout .vrhc .vrhi,.vrhc.mousefollow .vrhc .vrhi{position:abso-
lute!important;border:hidden;z-index:2;padding:0;left:0;top:0}.player_ol{position:absolute;width:
100%;height:100%;bottom:0;border:hidden;z-index:7}.vrhc.popout,.vrhc line,.vrhc.mousefollow{
border-radius:6px;overflow:hidden;display:table-row-
group;background:none}.vrhc.popout,.vrhc.mousefollow{z-index:4;box-shadow:0 4px 4px
rgba(0,0,0,.1),0 2px 80px rgba(0,0,0,.2)}.vrhc line{z-index:1;margin:0}.vrhc.popout,.vrhc
line{position:absolute;top:0}.vrhc.popout{border:1px solid #fff}.vrhc.mousefollow{position:fixed
}.vrhcp{position:relative;top:0;left:0;display:table-row}.vrhcp
.vrhc{position:relative;overflow:hidden}.vrhc.hide{display:none}@keyframes
vh_fadein{from{opacity:0}to{opacity:1}}.vrhc:not(.hide){animation:vh_fadein 250ms}.vrhc line
img{color:transparent}.vrhc line.fullsize{height:100%}.vrhc,.vrhc: hover,.vrhc: link,.vrhc: active,.vr
hc: visited{color:#000;text-decoration:none}.vrhc.vrh_clc{cursor:pointer}a.hover-anchor{display:
block;height:100%;width:100%;text-decoration:none}.vrhstat{height:0;overflow:hidden}Videos
of Substation Power Generation SystemWatch video12:38How Do Substations Work?Practical
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Generating System.Basic Electrical Learning1.2K views6 months agoWatch video4:43What's a
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ideo.sb_doct_txt{color:#4007a2;font-size:11px;line-height:21px;margin-right:3px;vertical-
```



Substation power generation system

Department of Energy [PDF] How It Works: Electric Transmission & Distribution and Substations serve as critical nodes connecting generation, transmission, and distribution networks. While substations are used for several distinct system functions, most utilize electric Understanding the Role of Substations Along the Transmission Path The different types of substations we've discussed are all essential building blocks of the power system. They enable the smooth transfer of electricity from generation to

eTool : Electric Power Generation, Transmission, A step-up transmission substation receives electric power from a nearby generating facility and uses a large power transformer to increase the voltage for transmission to distant locations. Fundamentals of Modern Electrical Substations To better understand the importance of electrical substations, let's start with a discussion about the structure of the power systems and their main components. Understanding Grid Stations, Substations, and Substations house relays, circuit breakers, and other equipment designed to protect the grid and ensure reliable power delivery. They distribute power to localized areas, connecting the high-voltage Substation A substation is a part of an electrical generation, transmission, and distribution system. Substations transform voltage from high to low, or the reverse, or perform any of several other The basic things about substations you MUST know in the middle In a less simple way, substation is the key part of electrical generation, transmission, and distribution systems. Substation transforms voltage from high to low or from low to high as How It Works: Electric Transmission & Distribution and Substations serve as critical nodes connecting generation, transmission, and distribution networks. While substations are used for several distinct system functions, most utilize electric eTool : Electric Power Generation, Transmission, and Distribution A step-up transmission substation receives electric power from a nearby generating facility and uses a large power transformer to increase the voltage for transmission to distant locations. Understanding Grid Stations, Substations, and Switchyards in Power Systems Substations house relays, circuit breakers, and other equipment designed to protect the grid and ensure reliable power delivery. They distribute power to localized areas, Types of Substations and Functions As the demand for electrical power continues to grow, it can be met through power generation substations. There are different types of power generation substations, including thermal, Basics of Designing Power Substations For the most part, electric power substations are viewed as the most integral part of a power utilities' electric system, with electric systems being comprised of power generation, What is a substation? | National Grid One of the main roles of substations is to convert electricity into different voltages. This is needed so the electricity can be transmitted throughout the country and then distributed throughout Substation A substation is a part of an electrical generation, transmission, and distribution system. Substations transform voltage from high to low, or the reverse, or perform any of several other What is a substation? | National Grid One of the main roles of substations is to convert electricity into different voltages. This is needed so the electricity can be transmitted throughout the country and then distributed throughout



Substation power generation system

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