

DOCKETED  
UNRDCUNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION; JUN 11 AM 12:26

In the Matter of	)	
	)	
PACIFIC GAS AND ELECTRIC	)	Docket No. 50-275
COMPANY	)	Docket No. 50-323
	)	Reopened Hearing -
Diablo Canyon Nuclear Power	)	Design Quality
Plant, Units 1 and 2	)	Assurance

## TRANSCRIPT CORRECTIONS

Pacific Gas and Electric Company hereby requests that the following corrections 1/ be made to the transcript of the design quality assurance hearings held October 31 -November 21, 1983.

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-207	7	Reviess	Reviews
D-229	17	control	control room
D-230	22	evolved	reviewed
D-231	4	verification	ventilation
		ventilation	
D-234	20	(a) through	A through D
		(d)	

1/ There are a considerable number of typographical errors not included herein because the meaning of the particular word or phrase seems clear in spite of the error.

D503

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-235	1-3		
D-238	20	to brief	to be brief
D-253	22	evolution	evolution
D-257	21	volts	loads
D-258	16	The witness read	I misread
D-259	1	of	for
D-262	5	structures	structure is
D-263	21	about	about what
D-271	1	MR.	JUDGE
D-271	17	collagorate	collaborate
D-271	21	coduit	conduit
D-273	2	and site	inside
D-298	5	a	the
D-300	9	not	nor
D-305	24	is	that is
D-312	7	No.	not
D-319	3	generated	generator
D-325	23	sic	six
D-329	23	Hope	Hoch
D-331	9	contacted	contracted
D-333	23	panel	pattern
D-340	12	authors.	others.
D-344	18	reached	used
D-346	18	ti	it

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-348	16	surface.	service.
D-349	20	design	designer
D-354	12	power	plant
D-355	17	test	check
D-356	11	JUDGE	A. WITNESS
D-367	4	linear elastic	in nuclear plant
D-372	8	it	that
D-374	19	1001	8001
D-377	7	assure	assuring
D-377	17	design	design is
D-379	18	the	the entire
D-399	2	I used	used
D-431	19	king	kind
D-445	16	2006	3006
D-448	4	in	and
D-459	11,12	in the name of	in order to maintain
D-459	14	plant.	plan.
D-462	11	sensitive	experienced
D-470	21	that wish	that
D-494	7	based	basis
D-499	7	inhabitable	uninhabitable
D-516	20	to	through
D-524	11	circuit	short circuit
D-527	4	break	breaker

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-532	7	NSI	ANSI
D-544	1	exhangers	exchangers
D-549-	1	190	1960
-50			
D-562	15	drive	derive
D-562	21	that	but
D-563	7	started	stated
D-588	22	TCM	DCM
D-594	8	systems	systems
			conditions
D-594	16	if	if any of
D-599	12	surface	service
D-610	25+	-	A. Yes.
D-630	4	about	of
D-654	18	finite	finite
			element
D-679	13	3.f.(i)	3.f.(iii)
D-692	1	can	can not
D-693	25	It	If it
D-695	1	pull	pore
D-695	14	higher	lower
D-716	9	formation	deformation
D-718	11	coefficient	coefficient of
D-723	22	3350	3500
D-727	15	model	modal
D-727	15	percent of	percent to

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-731	24	ming	making
D-740	6,9	8E	AE
D-740	13	modulus elasticity is	modulus of elasticity and is
D-740	15	squared	--
D-744-55	20	similarity.	singularity.
D-763, D-764			page numbers are reversed
D-763	18	problem	program
D-774	9	agency	H and C
D-777	13	0.182	0.18
D-777	17	and	in
D-777	17	drain test	drained tests
D-780	25	unreason- ableness	reasonableness
D-783	8	strained	strain
D-783	11	the strain	that for the
D-783	13	effect of	effective
D-784	9	curve	soil
D-784	10	backfit	backfill
D-784	18	strength.	strain.
D-786	15	interest	intercept
D-788	3	be	give
D-788	9	The	If the
D-789	7	radical	vertical

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-793	11	spot	plat
D-795	20	class	graph
D-799	10	the	in
D-800	21	6t	60
D-803	12	structures in	structure and
D-833	11	higher	higher shear
D-835	9	new	no
D-850	22	direction	directing
D-854	18	not	not having
D-860	7	was required	was not required
D-865	9	for disposi- tion.	or dis- positioned.
D-865	22	correct	corrected
D-866	1	power manual	power plant manual
D-873	12	of the	of updating the
D-877	22	section.	section in hand.
D-878	22	suspended.	suspended license.
D-884	18	start it	started
D-897	3,7	34	35
D-898	21	Moore	Norton
D-944	10	of control	and control of

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-952	23	"G&E	PG&E
D-953	20	had as his superior Mr. Warren	as is his superior Mr. Jim
D-968	12	major	major or
D-969	4	from	at
D-981	7	in	and
D-981	8	requires	requires us
D-981	18	discontinue	just continue
D-983	11	7, 7	6, 7
D-984	5	teeth	sheets
D-986	22	Final	File
D-988	14	1144	1141
D-1016	7	Maybe	(Witness deUriarte) maybe
D-1016	25	matters	structures
D-1033	15	not	not do
D-1038	11	1/2 rpgra	program
D-1056	24	8.2	3.2
D-1096	6	are	were
D-1127	23	controls	includes

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-11128	19	full	four
D-1133	14	forms	the form
L-1162	8	Strumwasser	Kaplan
D-1162	14,17	in	and
D-1166	6	plotter and	prior and the
D-1167	10	necessary,not	necessary. But
D-1169	7	At least	That leaves
D-1169	23	1.7	1.17
D-1172	1	-	Q
D-1172	4	-	A
D-1172	18	Answer.	Answer it.
D-1172	19	"result"?	"resolve"?
D-1175	10	does	that
D-1175	12	elements	errors
D-1176	9	their	your
D-1176	14	152	150
D-1176	19	did	would
D-1178	12	and	then
D-1179	8	of	in
D-1180	11	Class	Class A
D-1180	19	sand	fan
D-1181	23	Class	Class A
D-1183	7	yes,	yes, in
D-1193	15	the power	the Z ion power
D-1195	20	it	value



<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1198	9	surfaced	surfaced or
D-1206	7	or	of
D-1206	11	No.	Yes.
D-1207	3	under	that
D-1207	11	case	cause
D-1214	2	cross	across
D-1215	9	of of	of as
D-1213	9	able	unable
D-1224	14	the system.	these systems.
D-1225	17	contracted.	contractors.
D-1235	15	Reg	Region
D-1237	4	asked for one	were asked one
D-1238	20	estimates	sample
D-1244	18	we take	it takes
D-1256	5	detection	of detection
D-1258	20	knowledge	knowledgeable
D-1263	9	1.3 of .1	1.3 and .1
D-1269	23	DVP	DCP
D-1274	18,19	stratum	sampling
		process, and	process then
D-1288	13	an alternate	a general
D-1301	19	taking him	thinking what
		back	my guy is
			thinking and
			so on.
D-1301	25	in	not

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1306	22	Cubic feet	Dr. Johnson:  Per cubic foot.
D-1307	23	squeeze	Swede
D-1312	25	certain	in certain
D-1314	22	would	could
D-1321	14	is	was
D-1325	9	take a whole	take whole
D-1325	11	plant.	program.
D-1327	17	sampling	design  verification
D-1329	8	here, because	, because here
D-1339	14	"meaningless"	"reasonable"
D-1341	12	They	We
D-1348	23	referee	refereed
D-1349	4	referee	refereed
D-1353	8	measured, it  followed	measure it,
D-1354	1	about	about it
D-1354	12	orbablistics"?	probabilistics"?
D-1354	15	use	use it
D-1360	4	another	a
D-1372	4	but not	but are not
D-1372	5	wouldn't	would
D-1377	1	on	I am
D-1377	2	as far as	which are as  far as

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1378	10	it's in	it crossed
D-1381	23	are about	aren't
D-1388	12	mine.	one.
D-1389	1	as for	as to
D-1389	23	reficiation	verification
D-1394	10	design	PRA
D-1399	8	virtually 1	virtually certain
D-1414	1	fair.	not fair.
D-1418	20	defense	difference
D-1421	21	DVP	DCP
D-1424	4	E-3'	E-3 prime
D-1424	10	E-3'	E-3 prime
D-1444	15	(Excerpt IDVP Final Report)	(Excerpt Rev. 0 IDVP Final Report)
D-1444	16	(Excerpt IDVP Final Report)	(Excerpt Rev. 1 IDVP Final Report)
D-1446	13	reference	referenced
D-1446	18	along.	alone.
D-1446	20	once sentence	one sentence
D-1470	19	design change,	design chain,
D-1471	6	or last perhaps	or both perhaps
D-1485	16	Teledyne of	Teledyne or

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1501	16,17	the piping equipment components	the piping, equipment, components
D-1501	20	piping equipment,	piping and equipment,
D-1506	13	were no designed	were not designed
D-1507	2	Non were	None were
D-1508	2	plans that	plans state that
D-1513	24	IDVP Cooper called DCP Friend and	IDVP (Cooper) called DCP (Friend) and
D-1515	14	a good a definition	as good a definition
D-1517	20	and others,	and others do,
D-1523	15	and relia- bility	on reliability
D-1526	18	evaluation and commit- ment	evaluation, the commitment
D-1527	19	Dr. Kaplan,	Dr. Cooper,
D-1527	21	(Witness Kaplan)	(Witness Cooper)
D-1539	15	10 CFR 50	10 CFR
D-1628	14,16, 17	Bragin	Bragan

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1633	13	these notes	these notes
		with	with
D-1634	25	feeling	feeling about
		about	the
D-1635	25	later	later reviewed
		revealed in	in
D-1677	4	of the EDVP's	of the IDVP's
D-1683	5	there is not	there are no
		page	page
D-1683	18	ARFR prepared	an RFR prepared
D-1686	20	purchased in	purchased, and
		preoperation-	preoperational
		al testing,	testing then
		then	
D-1687	18	is "appro-	is appropriate.
		priate."	
D-1687	19	I was	I am
D-1687	21	and his	and his
		explantation	explanation
D-1690	4	beyond the	behind the
		technical	technical
D-1693	11	My final	The final
		report,	report,
D-1693	16	the request	the request
		made,	was made,
D-1710	24	design review	design review,
		independent	independent

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1711	19	It was unended	It was an open-ended
D-1716	22	and quality	and qualify
D-1719	3	the safe non-seismic	the safety-related non-seismic
D-1720	23	Well, from an engineer,	Well, as an engineer,
D-1727	23	design of DCMVP-1,	design of DCNPP-1,
D-1732	14	application.	verification.
D-1734	6	and EOI	an EOI
D-1734	9	particular instances,	particular instance,
D-1734	11	only form that	only firm that
D-1735	11	that subjec material,	that subject material,
D-1771	16	to answer Mr. Reedy	to allow Mr. Reedy
D-1784	16	goal of appendix,	goal of Appendix B,
D-1792	1	to a horizontal	to as a horizontal
D-1803	14	understanding the	understanding of the



<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1806	21	changeover	changeover in
		personnel	personnel
D-1812	24	like to make	like to make
D-1825	17	and if we	and we wanted,
		wanted,	
D-1827	6	evaluation-	evaluation
		address	address
D-1828	5	ethics in	ethics in a
		professional	professional
D-1830	16	who were	who are not
		unbiased	biased
D-1831	24	an under-	a misstatement
		statement	
D-1833	25	that they	that they
		had really	really
D-1836	8	required, to	required, the
		the	
D-1840	12	Miles J.	Myle J. Holley, Jr.,
		Holley, Jr.,	
D-1840	16	MILES J.	MYLE J. HOLLEY, JR.
		HOLLEY, JR.	
D-1843	15	Mr. Wary,	Mr. Wray
D-1844	12	your relation-	your relationship
		ship	
D-1844	15	(Witness Wary)	(Witness Wray)

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1845	17	a contingency	a continuing
		basis.	basis.
D-1845	21	Dr. Nolley?	Dr. Holley?
D-1848	14	and read	and read descriptions
		desriptions	
D-1848	15	quite	quite reasonable.
		reasonable?	
D-1849	9	the auxiliar	the auxiliary
		building	building
D-1849	17	Ane, yes,	And, yes,
D-1852	15	3.4.	3.r.
D-1861	1	"controlling"	is "controlling",
		the DE, for	the DE for example,
		example,	
D-1862	23	Plot 225(c) (1)	225C-1
D-1875	8	It doesn't do	One doesn't do
		that,	that,
D-1876	5	number of	number of
		conservatives	conservative
			assumptions
D-1876	14	With these	With these
		conservatives	conservative
			assumptions
D-1879	18	on the	on scratch paper,
		scratch paper,	
D-1881	21	Professor's	Professor Holley's
		doubts	doubts



<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1890	9	as second order	as a second order
D-1893	2	strengths	springs
D-1901	3	the opening stream	the ultimate extreme
D-1903	21	and I super- vise this	and I supervised this
D-1904	5	Revision I,	Revision 1,
D-1905	13	certain rantes of	certain ranges of
D-1907	25	This does	This goes
D-1908	17	was Case --	was Case 4
D-1919	6	the loads were	the nodes were
D-1921	9	simple degree of	single degree of
D-1922	9	shapes are in the	shapes are and the
D-1924	12	the pipin remains	the piping remains
D-1924	23	is essential	is essentially
D-1926	3	is stated her.	is stated here.
D-1928	17	of the varied	of the buried
D-1930	24	the local nodal	the local modal

Page	Line	Now Reads	Should Read
D-1931	3	to the Brook-	to the Blume
		haven	
D-1931	5	presented	presented plots
		thoughts	
D-1931	7	those	those plots?
		thoughts?	
D-1934	14	annulus	annulus
		horizontal	horizontally
D-1941	10	your	your question
		questtion	
D-1948	11	This was	This was
		corrected	corrected by
D-1948	15	refers tothe	refers to the
D-1951	13	the slabe were	the slabs were
D-1951	16	The Slabe were	The slabs were
D-1957	18	to uncover the	to uncouple the
D-1957	19	to uncover	to uncouple subsets
		subsets	
D-1958	9	then obiously	then obviously the
		the	
D-1959	24	flow	floor
D-1964	18	horizontal	horizontal
		spacements	displacements
D-1968	10	certain	for certain
		finenesses	finenesses

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-1970	19	column, and which I believe there was, if there was, with the	column, and which I believe there was, with the
D-1970	20	I had soil stiffness under the	I had zero stiffness for the
D-1973	16	the basis.	that basis.
D-1979	4	completely con trolled	completely controlled
D-1979	15	that inthe final	that in the final
D-1987	16	Ben Stephens,	Vince Stephens,
D-1990	16	this is backfit.	this is backfill.
D-1994	10	strength of	strain to
D-2001	24	finally fine to	finally rind to
D-2005	10	date bof issuance	date of issuance
D-2005	12	Seed Y Idriss	Seed & Idriss
D-2008	22	almost one,	almost none,
D-2010	12	that date that is given	the data that are given
D-2011	4	Are these corings	Are these borings

<u>Page</u>	<u>Line</u>	<u>Now Reads</u>	<u>Should Read</u>
D-2016	17	be comprised,	be compromised,
D-2019	20	was then	was then
		competent	incompetent
D-2020 through		Mr. Dennison	Mr. Denison
D-2023			
D-2036	23	and the	and the participa-
		dissipa-	
D-2062	24	to	not
D-2226	12	decreasing	increasing
D-2226	24	weight	wane
D-2251	14	turfs	curves
D-2251	24	feedwater	saltwater
D-2335	19	question	pressure
D-2359	23	and	in
D-2360	1	and	in
D-2625	1	rates	weights
D-2634	14	56-58 and	56-58, 60, and
D-2875	8	pacifier	passive
D-3114	17	turfs	curves
D-3123	3	they consis-	they are
		tent	consistent.
D-3137	24	they' be	they've been
		been reported	reported again
		again in '82.	in '83.

Respectfully submitted,

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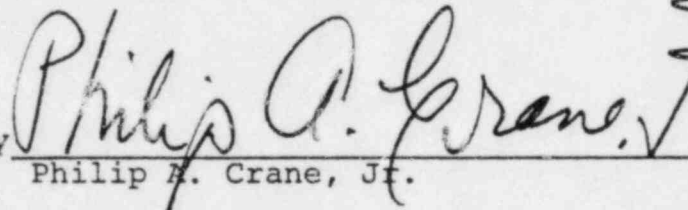
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Dated January 11, 1984

By

  
Philip A. Crane, Jr.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
PACIFIC GAS AND ELECTRIC COMPANY )  
 )  
Director of Nuclear Power Plant, )  
Unit. )  
 )

Docket No. 50-275  
Docket No. 50-323 11:27

DOCKET  
BRANCH

CERTIFICATE OF SERVICE

The foregoing document(s) of Pacific Gas and Electric Company has (have) been served today on the following by deposit in the United States mail, properly stamped and addressed:

Judge John F. Wolf  
Chairman  
Atomic Safety and Licensing Board  
US Nuclear Regulatory Commission  
Washington DC 20555

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Atomic Safety and Licensing Board  
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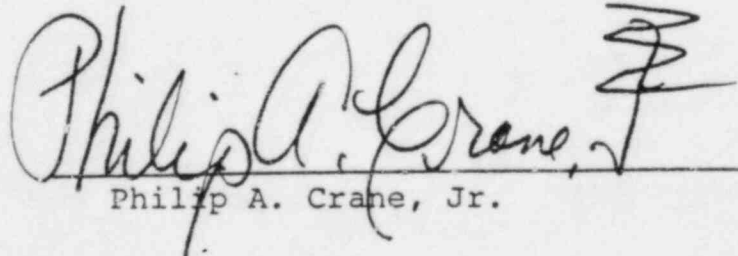
Judge W. Reed Johnson  
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