

Data Sheet – Operating Reactor Licensing Resource Estimates

Summary:

The tables below offer resource and schedule estimates for licensing activities for operating reactors. This information is being offered to enhance stakeholder awareness of the costs and timelines associated with review of a wide array of operating reactor licensing actions. Actual costs and schedule may vary depending on the unique circumstances of each review.

These estimates have informed staff resource estimates as part of the acceptance review process, the fee estimate process in support of the annual fee rule, and the operating reactor budget formulation process. Using this data-driven approach, we can identify trends and outliers in licensing action resources and review schedules to help us better engage with our internal and external stakeholders.

Methodology:

The resource and schedule estimates included in this data sheet are based on a large dataset (about 5,000 rows of data) of completed licensing actions from 2018 – 2021. We used this large dataset to create the internal-facing Licensing Resource Predictive Tool for calculating median ranges (+/- 25% from median) of staff hours and review timelines for almost any type of operating reactor licensing action, with additional keyword search functionality. In creating this data sheet and the accompanying graphics for the Operating Reactor Licensing Resource Estimator, the staff only included types of licensing actions that had at least four submittals since 2018, in order to have a sufficiently representative sample of reviews. The data for COVID-19 related licensing actions was excluded from all queries except specifically for the table titled, “COVID-19 Related Licensing Actions,” to ensure that these short-turn reviews did not skew the median values for “normal” licensing actions.

A Note on the NRC Fee Rule:

The estimated hours shown in the tables below represent NRC professional staff hours associated with project management and engineering review. The distribution of time among professional staff members (job categories) working on a project vary within each activity and from project to project. However, a single professional hourly rate is applied to all hours regardless of which professional staff contributed these hours. Indirect costs are included in the applied hourly rate as published in the current NRC Fee Rule. The median range estimates of hours shown in these tables are only intended to provide an approximate estimate of the total cost of NRC work on a billable activity based upon historical data.

Looking for Other Operating Reactor Business Line Resource Estimates?

Periodically, the staff updates a Fee Estimate worksheet that contains high, medium, and low resource estimates for staff reviews across the operating reactor business line, including operating reactor licensing and oversight, operator licensing, and research and test reactor licensing actions. This “traditional” fee estimate data sheet also includes data on estimates for where contractors are used to assist NRC in its review of licensing actions.

High-Level Types of Licensing Actions

	Median -25%	Median Hours	Median +25%	Median -25%	Median Project Duration (Months)	Median +25%	Sample Size (EPIDs ¹)
Amendments	104	195	370	7.2	9.8	11.5	878
Exemptions	60.2	89.4	171.4	4.5	7.8	10.4	68
Relief Requests	46.6	82	117.1	4.9	7.1	8.9	558
License Transfers	170	244.5	431.5	4.4	5.7	9.2	17
Power Uprates	1281.3	1375	1675	8.7	9.7	10.4	6
Program Change Requiring Prior NRC Approval	57	82.5	139	3.5	5.6	6.4	9
Notice of Enforcement Discretion	4.75	13.75	25	0.2	0.2	0.4	12
Other Licensing Tasks*	12.5	22.9	38.8	3.4	5.9	8.7	276

* Other licensing tasks are activities that are not specifically requested by a licensee via correspondence, but require NRC resources to review or support. For example, presubmittal public meetings, reviews of steam generator tube inspection reports, reviews of license renewal commitment changes, etc.

License Amendments:

	Median -25%	Median Hours	Median +25%	Median -25%	Median Project Duration (Months)	Median +25%	Sample Size (EPIDs ¹)
Amendments - All	104	195	370	7.2	9.8	11.5	878
Exigent*	104	124.5	162.6	0.4	0.6	1.3	14
One-Time*	192.4	255.8	271.9	1.1	2.2	3.9	15
10 CFR 50.69*	564	680	821	11.4	12.5	15.7	24
EAL ² Scheme* (excluded defueled)	132.5	192.3	232.5	9.8	10.8	11.7	17
ILRT ^{3*}	393.6	453.4	540.9	10	11	11.3	8
Source Term*	312	521	887	10.6	10.9	11.3	4
P/T or P-T ⁴ or Pressure and Temperature*	275.2	413.3	554	10.4	11.7	12.5	4

* Indicates a keyword search – may not return all licensing actions related to this keyword due to spelling or phrasing differences

¹ Enterprise Project Identifier

² Emergency Action Level

³ Integrated Leakage Rate Testing

⁴ Pressure/Temperature

License Amendments Adopting Technical Specifications Task Force Travelers (TSTFs)

	Median -25%	Median Hours	Median +25%	Median -25%	Median Project Duration (Months)	Median +25%	Sample Size (EPIDs)
TSTFs - All	73	117	220	6.3	8.7	11.1	252
TSTF-372	73	76	98.5	5.4	5.6	6.3	4
TSTF-412	96.6	104.1	115.7	5.4	6.5	8.1	4
TSTF-425	387	514.5	542	10.8	11.8	12.4	13
TSTF-427	59.8	71.5	84.8	5.2	6.5	8.8	4
TSTF-439	86.6	126	145.5	10.4	10.7	11.2	7
TSTF-490	139.5	192.3	196	8.8	9.3	11.4	5
TSTF-500	311.1	366.1	373.2	9.8	11	11.2	4
TSTF-501	72	97.5	123.8	6.1	8.5	11.1	6
TSTF-505	1440	1674	2145	12.9	15	28.7	14
TSTF-522	93.8	105.8	117.8	6.1	8.2	8.6	6
TSTF-529	58.9	73.6	116.1	5.7	6.9	8.6	12
TSTF-542	247.1	298.5	389.9	10	11	11.7	23
TSTF-545	117.7	182.1	236.6	8.8	9.7	10.4	6
TSTF-547	141.9	192.8	215.1	6.6	8.9	10.2	8

TSTF-551	40.1	46.8	70.3	4.7	6	9	7
TSTF-563	76.3	98.8	128.1	7.6	8.7	9.6	14
TSTF-564	119.4	182.3	192.1	4.9	7.6	9.2	10
TSTF-566	51	57.5	70.7	7	9.2	11	6
TSTF-567	40	64.8	72.9	6.7	7.4	8.3	7
TSTF-569	51	62.3	86.4	6	7.5	8.4	7
TSTF-582	74.1	89.8	98.9	4.4	4.8	6.6	14
TSTFs - All Non-CLIP ¹	74	126	250	6.9	9	11.1	232
TSTFs - All CLIP	56.8	72.8	94.9	5.2	5.5	6.4	20

¹ Consolidated Line Item Improvement Program

Relief Requests

	Median -25%	Median Hours	Median +25%	Median -25%	Median Project Duration (Months)	Median +25%	Sample Size (EPIDs)
Relief Requests - All	46.6	82	117.1	4.9	7.1	8.9	558
IST ¹	31.9	50.3	67	2.9	6.2	8	43
ISI ²	57	101.5	137.4	6.6	8	9.8	147
Impractical*	99.8	121	196.1	6.6	7.9	10	16
Code Case*	52.9	82.6	107.1	4.7	6.3	8.5	70
OMN ³ *	33.8	43.3	62.6	4.3	5.6	6.6	10
ASME ⁴ Code Case N-729-4*	60.8	78	105.6	3.5	5	6.3	10
ASME Code Case N-513-4*	51.4	72.3	93.8	3.3	6.2	8.9	19
Verbal*	81.2	98	143.7	4.5	5	5.4	6

* Indicates a keyword search – may not return all licensing actions related to this keyword due to spelling or phrasing differences

¹ Inservice Testing

² Inservice Inspection

³ A type of Operations and Maintenance ASME Code Case

⁴ American Society of Mechanical Engineers

Exemptions

	Median -25%	Median Hours	Median +25%	Median -25%	Median Project Duration (Months)	Median +25%	Sample Size (EPIDs)
Exemptions - All	60.2	89.4	171.4	4.5	7.8	10.4	68
10 CFR 73*	53.6	66.9	75.5	7.8	9.6	9.9	4
10 CFR 50.47*	414.3	494.5	518.8	10.4	12	12.6	5
Record Retention*	21.3	24.5	37.4	3.2	4.6	6.9	7
10 CFR 73.55*	51.3	61.5	72.3	7.4	9.3	9.8	5
10 CFR 50.54*	77.9	88	112.9	6.9	8	8.8	6
10 CFR 50.46*	123.8	319.3	536.5	11.8	13.9	16.5	5

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Covid-19 Related Licensing Actions

	Median -25%	Median Hours	Median +25%	Median -25%	Median Project Duration (Months)	Median +25%	Sample Size (EPIDs)
Licensing Actions - All	10	20.3	39.7	0.4	0.8	1.4	282
License Amendments	75.6	139	251.2	0.8	1.3	2.4	20
Relief Requests	28.5	48.3	66.3	2.1	4.2	5.9	40
Exemptions - All	9	14.8	24.8	0.4	0.7	1	218
Exemptions – 10 CFR Part 26	7.3	10	18.1	0.1	0.3	0.4	54
Exemptions – 10 CFR Part 73	8.7	14.8	22.5	0.5	0.8	0.9	104
Exemptions – 10 CFR 50, Appendix E	22.5	29.5	39.8	0.9	1.2	1.7	27